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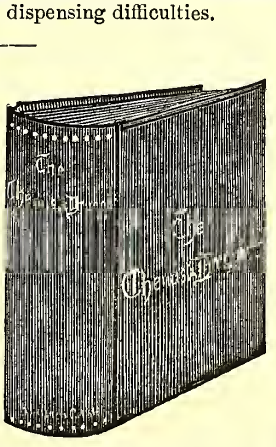
A CONSIDERABLE part of our pages this week is occupied with a report of the twenty-fourth meeting of the British Pharmaceutical Conference, which met at Manchester on Monday, Tuesday, and Wednesday, and wound up at Matlock on Thursday evening. The meeting was generally regarded as a notable success, and the attendance was the largest on record.

THE Unofficial Formulary compiled at the instance of the Pharmaceutical Conference last year by a committee specially appointed, was submitted to the Conference at Manchester, and was thereby accepted. We print this Formulary in full in this number, and recommend our subscribers to carefully keep it for future reference in dispensing difficulties.



THE reading cases which we offer to subscribers are now used by a very large number of chemists, and are found very convenient. They keep together thirteen numbers in very tidy form, always ready for reference. By having two cases in hand the numbers of a complete volume are always available until the time comes for binding. We sell these cases at the office for 1*s.*, or by parcels post 1*s.* 3*d.*, or two for 2*s.* 3*d.* We cannot forward them to any house for enclosure, nor by any of the carriers, as in the latter case we have to pay for booking.

FRENCH CHEMISTS' ASSISTANTS.

THE Paris correspondent of a London daily paper states that the Parisian *potards*, or chemists' assistants, are threatening to strike, or at least to take steps to protect themselves from what they call the "rapacity of their masters." The disaffection among the knights of the pestle and mortar is attracting public attention because it is well-nigh unprecedented. It opens up, in fact, a vista of contingencies as terrible as that shadowed forth by the chemist who was subpœnaed in the famous case of "Bardell *versus* Pickwick," and had left a small boy with hazy notions of the contents of the cabalistically marked drawers and bottles in his shop. At a recent meeting of the disaffected Parisian *potards*, it was stated that there were twelve hundred slaves who were condemned to pass their wretched existence behind a counter making up pills and potions, or in the laboratory preparing syrups and purgatives. They worked seventeen and eighteen hours in summer and sixteen in winter, and another ground of complaint was that even when there were no customers they had to make believe that they were doing something by dusting or arranging bottles and phials. For these reasons the ill-fated *potards* are trying to form themselves into a syndicate; but it is extremely doubtful if they will succeed, even should they form such an association, in ameliorating their lot, which is not a happy one. These men are the unlucky ones of the pharmaceutical profession, as they have no money to start in business for themselves, and they are thus for ever condemned to what they call in common with the Socialists the "exploitation of the capitalists." One of the men gave a melancholy description of the ordinary day's work of a Parisian chemist's assistant. He rises at seven o'clock and serves the ordinary morning customers who come for castor-oil, sulphate of magnesia, *tisanes*, and other decoctions. At ten he goes to the laboratory and makes up syrups, after which he returns to the shop and tries to take his lunch, in a hole between the laboratory and the office. While eating he is disturbed fifty times, and when he has finished the hardest and most responsible work of the day begins. This consists in the making up of medicines from the doctors' prescriptions, which pour in endlessly. This work is done at a feverish rate, and continues up to eleven o'clock at night, when the wearied assistant ascends five flights of stairs to his garret. Even when in bed he is doomed to hear the frequent ring of a bell which summons him to the shop or laboratory in the small hours of the morning. To the chemists' assistants who have no money and no hope this life is worse than slavery. By joining a syndicate they may obtain more salary, if they succeed in intimidating the employers, which is doubtful; but they can hardly expect to get more liberty or recreation, for even the masters themselves have to remain tied to their desks for long hours; the chemist who is in the habit of absenting himself from his place of business, or of spending too much time in cafés or similar places, being regarded by the customers as dangerous and untrustworthy.

THERE has been a distinct turn for the better in the produce markets, which is all the more noteworthy because we are as yet in what is generally the quietest time of the whole year. Shellac, in which vast capitals have been lost during the last few years, and which lately frightened even the most hardened speculators, has risen from 15 to 20 per cent. since the latter half of August. Quicksilver is dearer now than it has been for years. Opium, though momentarily quiet, is still moving upwards. If only quinine would harden, speculators would again pluck up something of their old courage.

Metropolitan Reports.

CRICKET.—The Chemists' Aërated Waters Association Eleven met the Barnett-Foster Eleven on August 20 at Gospel Oak. The wicket was wet and difficult, but this seemed less inconvenient to the waters men than to the machinery-makers. The Association scored 54, Pirie, Fairbrother, and Doo contributing 9, 10, and 12 respectively. The Barnett-Foster Eleven made a very poor show. Only three of them scored at all, and these made but 5 between them; with 5 more as extras their innings closed for 10. The bowling of Doo was very destructive.

MESSRS. LYNCH & CO.'S DAY OUT.—On August 27 the employés of Messrs. Lynch & Co., Aldersgate Street, had their annual outing. The party left Holborn Viaduct Station soon after 8 A.M., and proceeded to Ightham in Kent, the company spending the morning in various ways. Dinner was served in a substantial manner at the George and Dragon Inn, and afterwards the toasts of "The Firm," "Representatives," "Visitors," &c., were proposed. That of the firm was enthusiastically received. In the afternoon the party went for drives and enjoyed the beauties of the surrounding country, returning to Ightham to a sumptuous tea, to which ample justice was done, and soon after started for home, having spent a thoroughly enjoyable day.

SELLING GINGER-BEER AFTER TEN P.M.—At Greenwich Police Court on Tuesday, George H. Young, of 41 London Street, Greenwich, and Matthew James Crawford, of 1 Nelson Street, Greenwich, were summoned by the Inland Revenue authorities for keeping refreshment houses without being licensed. Mr. Powell appeared for the prosecution. The evidence given was to the effect that Mr. Scarisbrick, an officer of Inland Revenue, called at the shops and had a bottle of ginger-beer at each after ten o'clock at night. The defendants denied that they were refreshment-house keepers, saying they sold confectionery, and did not usually sell refreshments after ten o'clock at night. There was no corroborative evidence, and Mr. Marsham said he did not think it a case for a penalty. He dismissed both summonses, but advised the defendants to be careful not to keep their shops open after ten o'clock in the evening.

AN OVERDOSE OF LAUDANUM.—On August 26 Mr. William Carter, coroner for East Surrey, held an inquest at the Crown Tavern, Lambeth Road, on the body of William Jamieson Douglas, aged 26 years, described as a journalist, lately residing in lodgings at 44 Upper Marsh, Lambeth. Sarah Ann Douglas, the widow, stated that they had only been married five weeks. She last saw her husband alive on the 13th inst., when she accompanied him to Euston Station to see him off to Greenock, where he was going on a visit to his friends. He was not then very well, having a diseased arm. She was aware that he was in the habit of taking laudanum to lull the pain in his arm. Witness was a nurse at St. Thomas's Hospital, and last Tuesday she got a letter from him, wherein he promised to visit witness as soon as he possibly could. The letter was addressed from their lodgings in Lambeth. Witness next saw him at the parish mortuary, and he was then dead. Mrs. Elizabeth Barton, a widow, deposed that she was landlady of the house, 44 Upper Marsh. About eight weeks ago Mr. Douglas engaged apartments there as a single gentleman. Three weeks afterwards he got married, and brought his wife (the last witness) home. On Wednesday night, in consequence of not having seen or heard anything of Mr. Douglas (whom she knew to be at home) since the previous morning, she became alarmed and gave information to the police, who forced the door open and found the man dead. Witness was aware that he was in the habit of taking laudanum. He and his wife appeared on very happy terms. Mr. Frederick William Brookes, surgeon, stated that he was called to see Mr. Douglas, who had been dead upwards of twenty-four hours. He had no doubt that death was due to poisoning by laudanum. The widow, recalled, in reply to the coroner, said that her husband had never threatened to commit suicide, and she had no suspicion that he had destroyed his life purposely. After hearing further evidence, the jury returned a verdict of "Death from misadventure through taking an overdose of laudanum."

Provincial Reports.

Items of news, and newspapers containing matters of interest to the trade, sent to the Editor, will much oblige.

BELFAST.

THE BREAKDOWN OF THE IRISH PHARMACY ACT.—On Thursday, August 25, the summons division of the Belfast Police Court was thronged with local chemists, druggists, and apothecaries, intent on hearing the issues raised in a case brought at the suit of the Pharmaceutical Society of Ireland against a druggist named Thompson, carrying on business on the Shankill Road, who was charged with having sold a poisonous drug contrary to the provisions of the Irish Pharmacy Act of 1875.

The magistrates on the bench were Messrs. McCarthy, R.M., and Bell, J.P.

Mr. Lewis appeared for the Pharmaceutical Society, and Messrs. McErlean and McLeane for defendant.

After the ordinary business had been disposed of

Mr. McCarthy said he wished to know what was going to be done in the case at the suit of the Pharmaceutical Society.

Mr. Lewis: I have to inform your worships that there will be no appearance on behalf of the Society. (Laughter.)

Mr. McErlean: I, with my friend Mr. McLeane, appear for the defendant. As your worships will no doubt recollect, a somewhat similar case was before the Court a short time since, in which you gave a decision that I am glad to be able to state is fully endorsed by the principal journal concerned with advocating and protecting the interests of chemists and druggists on the other side of the channel. I have here in my hand a copy of THE CHEMIST AND DRUGGIST, the most enlightened and powerful organ of the trade in England, and I am pleased to observe that it entirely approves of the decision you came to in respect to the other case heard before you—indeed, it even goes further, and hints at a probable result of the action of the Pharmaceutical Society which I am sure that august body little contemplated when deciding to institute these trumpery and malicious prosecutions. Had the Society concluded to proceed with this case to-day, I believe I would have been able to show that THE CHEMIST AND DRUGGIST by no means overstepped the mark in its prediction relative to the probable issue of these actions. It should not be forgotten that the interests involved in these prosecutions are of the utmost importance to a very large and influential section of the trading community in Ireland, and those engaged in kindred pursuits in England naturally watch the result with considerable attention. It seems to me quite evident that some interested party or parties in Belfast have unadvisedly taken on themselves to set the Society in motion in reference to certain respectable traders against whom they entertained a grudge. On the last day when you had a similar case before you I showed by the section of the Act that the Society could do nothing unless it was able to produce a certain register which it had admittedly never formed.

Mr. McCarthy: But what about the present case?

Mr. McErlean: Oh, they have decided at length to enter no appearance, and I am convinced that is the wisest course the Society could adopt under the circumstances. On the last day we were taken somewhat at a disadvantage; but since then we have had time to look up the law on the subject, and I entertain a very strong opinion that chemists and druggists have a perfect legal right to carry on their business without any interference on the part of this Society.

Mr. McCarthy: Well, we will express no opinion on the merits one way or other.

Mr. McErlean: Quite right, sir. The right of these traders to carry on their business has existed ever since an Act passed in 1791. These prosecutions were brought under an Act repealing that old statute, and they having failed, we appear to revert to whatever may have been the common law on the subject. As a matter of fact, people have far greater rights in this matter than the Society seems willing to concede them, and though my clients do not wish to pick any unnecessary quarrel with the Society, they have no intention of permitting it to impose restrictions on them which are not justified in law. Let it leave them alone, and they will not try to infringe any privileges to which it can legally lay claim.

Mr. McCarthy: Well, I suppose that settles the matter.

Mr. Lewis: Yes, sir, you may just enter no appearance.

The matter then dropped, and those interested left the court, the majority evidently well pleased with the result.

BIRMINGHAM.

Cricket. — Midland Counties Chemists' Association. — Match between Married and Single. Played at Cannon Hill Park, Birmingham, on August 24:—

Married.		*Single.*	
Cripps, Mr., b Cross	10	Ground, Mr., b Prowse	5
Prowse, Mr., ct Jones, b Howes	14	Cross, Mr. F., b Cripps	28
Nagle, Mr., b Cross	0	Jones, Mr. W. (King's Norton), not out	32
Sillman, Mr., b Alcock	14	Cross, Mr., c Prowse b Cripps	0
Critchlow, Mr., b Alcock	0	Tullett, Mr. (Capt.), ct and b Cripps	3
Barlow, Mr., b Howes	0	Howes, Mr., b Sillman	16
Jones, Mr. W., b Alcock	1	Alcock, Mr. F. H., b Sillman	8
Hollick, Mr., b Alcock	0	Hunt, Mr., b Cripps	0
Drew, Mr., b Ground	6	Whitly, Mr., b Cripps	0
Lear, Mr., not out	0	Chaptain, Mr. T. W., b Cripps	11
Thompson, Mr. (Capt.), b Alcock	0	Hutton, Mr., b Cripps	0
Extras	9	Extras	9
Total	54	Total	112

BOOTLE.

On August 23 Mr. George Ratcliffe, chemist and druggist, of Waterloo, Lancashire, appeared at the Bootle County Court to answer a summons brought against him by a firm of solicitors to recover a fee for professional services. It appeared that in March last the defendant, in company with three other persons, had to answer a charge of being on licensed premises during prohibited hours, and the question now at issue was whether Mr. Berry, the solicitor, could claim a fee for defending Mr. Ratcliffe on that occasion, the latter alleging that he never understood from Mr. Berry that he would have to pay any money. He (Mr. Ratcliffe) went to the court to appear to the licensing summons, and on his way he met Mr. Whiting, a co-defendant to the charge. Whiting said he had engaged Mr. Berry, and he went with Whiting to see Mr. Berry. Mr. Berry said to him, "You are in this, are you?" and asked him for his version of the affair, which he gave. This was all about it.

His Honour: Didn't you go the police court?—Yes; and after Mr. Berry spoke I asked the magistrates to be allowed to defend myself. It was solely upon my evidence that the case came off as it did.

Asked why, when the bill was sent in, he did not return it to Mr. Berry, the defendant said he did not think that was necessary. He had received four letters from Mr. Berry's firm, but had not replied to any. Ultimately the case was adjourned, to enable the defendant's friend, Mr. Whiting, to be called.

CREWE.

Applications for Wine Licences.—Mr. A. P. Newman, chemist and druggist, residing in Victoria Street, Crewe, applied for a licence to sell wine by retail, to be consumed off the premises. Mr. T. Latham appeared on behalf of the applicant, and said he required the licence for the purpose of selling medicinal wines. The Bench granted the application. Mr. John Kay, chemist and druggist, residing in West Street, Crewe, made a similar application. Mr. T. Latham also appeared on behalf of this applicant, and the Bench granted the application.

HULL.

A Druggist Wrecking Furniture.—On August 24, at the Hull Police Court, Charles Austin Hutty, druggist, 81 Waterloo Street, was charged before Mr. Twiss, stipendiary magistrate, with committing wilful damage to furniture, the property of his father, residing at the same address. Mr. John Hutty stated that he retired to bed at half-past eleven o'clock on the previous night. A quarter of an hour afterwards his son, the defendant, came to the street door and knocked. Complainant's daughter got up and let him in. He ascended the stairs to his bedroom, and as he passed his father's door, which had been made fast through fear of him, his father heard him say that if he did not open it he had something in his hand that would astonish him. He, however, went to his room without attempting any violence. On reaching his bedroom he commenced to smash various articles of furniture and deliberately pitched five chairs and a towel-rail out of the window, the things being utterly destroyed. Mr. Hutty estimated the damage at 50*s.* Defendant said he had been drinking for a fortnight to excess, and he did not remember what he did. In reply to his worship, complainant said he was afraid of his son, and a charge of using threats was therefore ordered to be entered against him. On the defendant being again placed in the dock, complainant stated that he was in bodily fear of his son. He had spent 200*l.* on him in putting him into business, and he had squandered the money. Superintendent Trafford said that on the defendant being charged at the Norfolk Street police station on the previous day he said he expected to get six months, and when he came out of prison he would do for his father. Defendant said he did not remember anything. Mr. Twiss (to defendant's father): Where does he get the money for drink? Mr. Hutty: I dare not tell you. His worship fined defendant 1*s.* and costs, and ordered him to pay 50*s.* damages; in addition he was ordered to find two sureties in 10*l.* each to keep the peace for six months.

LANCASTER.

Death of another Pasteur Patient.—About six weeks ago, a boy named Albert Kirkham, aged 4, son of a fitter at Lancaster, was bitten very severely at Lancaster by a mad dog. He was taken to Paris, where he was treated by M. Pasteur. He returned home on August 25, and on the following day (Friday) there were premonitory symptoms of hydrophobia. He was removed to the Lancaster Infirmary, where he died on Saturday in great agony. An inquest was opened on August 29, and adjourned for a week to give time for experiments to be made.

NANTWICH.

An Amateur Doctor. — John Humphries Hinton was charged at Nantwich on August 29 with leaving his wife and two children, who had become chargeable to the Nantwich Union. The accused was formerly in a good position as a timekeeper at Crewe Ironworks. Having lost his employment and also run through a considerable sum of money, he repaired to Congleton, where he engaged himself as an assistant to Dr. Davidson. At the expiration of the period of probation, six months ago, arrangements were made whereby the defendant should pay 1*l.* per week for his board and lodgings. The defendant said he had a considerable sum of money coming to him, and he was willing to pay for his family's maintenance if the bench would allow him time to get his monetary affairs settled. He was committed for fourteen days with hard labour.

NEWCASTLE-ON-TYNE.

Poisoned by Mistake.—An inquest was held at Fence Houses on August 29 on the body of John Hughes, a coke-drawer, who died on Saturday after having taken a dose of liniment containing aconite in mistake for a cough mixture. The jury found that deceased had died from accidental poisoning.

ST. HELENS.

Death from Carbolic Acid.—An inquest was held on August 26 on the body of Alexander Lockhart, aged twenty-six, who lived at 7 Barton Street, but who died from the effects of drinking carbolic acid on the previous Tuesday. A bottle containing a small portion of acid, and labelled "Carbolic Acid. Poison. S. Wilson, Chemist and Druggist, Duke Street, St.

Helens," was produced by Inspector Steele. Mr. Wilson was present during the inquiry. Deceased had been living with a woman who had left him, and who had summoned him for an assault. He had been drinking heavily and was much depressed. Henry S. Eatock, assistant to Mr. Wilson, stated that when deceased asked for threepennyworth of carbolic acid witness said, "Do you know how to use carbolic acid?" Deceased said, "Oh, yes. I have had it many a time." He did not say what he wanted it for. He was perfectly sober, walked straight, and answered questions all right. Mr. Wilson said the Poisons Act did not affect carbolic acid. So long as it was labelled "Poison" they had done all that was required by the Act. In reply to a juryman, the coroner said there was no restriction as to the quantity. A person might purchase a gallon if he liked. The jury, after a few minutes' consideration, returned a verdict that the deceased committed suicide whilst temporarily insane.

SOUTH NORMANTON.

Carbolic Acid Poisoning.—An inquest was held at South Normanton on Thursday last upon the body of George Peat, eight years of age, who was poisoned under very painful circumstances on the previous evening. The deceased was the son of a plumber at South Normanton. On Monday he was stricken with scarlet fever, and Mr. Greenall, a local medical practitioner, was called in to attend him. On Wednesday Mr. Greenall prescribed a powder for the deceased, and instructed the boy's mother to administer it mixed with some sweetened tea. Previously some carbolic acid had been obtained as a disinfectant, and a quantity of it poured into a saucer and placed in the sick-room. Mrs. Peat duly mixed the powder with the tea in another saucer and offered it to the deceased, who was in bed. He declined to take it, and the mother went down stairs, and asked her husband to try and administer the dose. He accordingly went upstairs, and, taking up the saucer containing the carbolic acid, placed it to the lips of the deceased. The latter swallowed one mouthful, threw his head back, and commenced to cry. Mrs. Peat at once went into the room, and, realising what had occurred, exclaimed, "You have poisoned him!" the carbolic acid having inadvertently been given instead of the powder. The deceased's lips and mouth suddenly became blanched, and although an emetic was administered, death supervened within twenty minutes. The father said he did not know that carbolic acid was a deadly poison. It strongly resembled in colour the powder which should have been given. The jury returned a verdict that the deceased was accidentally poisoned.

WINSFORD.

Cholera Mixtures and Brandy Drinking.—On Tuesday application was made at the Oakmere Licensing Sessions by Mr. Cooke, solicitor, on behalf of Mr. Frank Clarke, chemist, Winsford, Cheshire, for permission to sell spirits in small quantities to persons purchasing certain medicines. Mr. Cooke said that spirits were necessary to be taken in connection with several classes of medicines. A person purchasing sixpennyworth of quinine would have to pay 2*s*. 6*d*. for a bottle of port wine for mixing if he went to a shop. It might be argued that he could go to a public-house, but a person—say, for instance, a teetotaller—suffering from a disease—(laughter)—did not like to be seen going to a public-house. If the applicant with the cholera mixture were permitted to sell a small quantity of brandy—about sixpennyworth—it would be very valuable to him in his business. The least quantity he could sell now was 4*s*. worth. The 69th section of the Act explicitly laid it down that such applicant could not be refused except for bad character. The applicant was called, and said that the rule in taking cholera mixture was to have one dose with a glass of brandy and water. Cholera mixture was sold in threepenny doses. Mr. Hickson (magistrate) said that applicant had power to mix the brandy with the cholera doses. The applicant said the brandy was usually taken in a glass after the mixture. (Laughter.) The Chairman remarked that if the application were granted people might make a run on the cholera mixture as a simple excuse to indulge in brandy drinking. The application was then adjourned, to gave the magistrates time to consider the point of law raised by Mr. Cooke as to their jurisdiction.

WORCESTER.

A Sauce Trade-mark.—At the County Petty Sessions held in this city recently before Mr. E. B. Evans, Colonel Middlemore, Colonel Bellers, Major Hill, and the Rev. C. J. Sale, William Mellor, trading as Mellor & Co., of Bridge Street, Worcester, sauce manufacturer, was summoned on the information of John Thompson, solicitor, for unlawfully describing a trade-mark applied to a certain article sold by him—to wit, a bottle of sauce—as registered, which was not so registered, at Ombersley, on August 1. Mr. Thompson appeared in support of the summons; Mr. Scott for the defendant. Mr. Thompson said that on public grounds he had to make a complaint against a trader of this city for having infringed the Patents, Designs, and Trade-marks Act of 1883. Mr. Mellor in the year 1878 availed himself of the statutory power to secure a trade-mark for his sauce; but the sauce was now being sold with a trade-mark totally different from that which was registered. The words "trade-mark" were used with the new trade-mark, and he contended that those words implied that it was a registered trade-mark. It had not, however, been registered, and the Act of 1883 had therefore been infringed. An objection was raised to the summons on the ground that the defendant was charged with actually describing the trade-mark as registered, whereas complainant now only alleged that it was "expressed or implied" that it was registered. After some conversation Mr. Scott consented to the amendment of the summons by the introduction of words to the effect that the registration of the trade-mark was "expressed or implied." William Henry Frazer, of Ombersley, deposed that he sold the bottle of sauce produced on August 1. He bought the sauce from a grocer in Worcester—not direct from Mellor & Co. Mr. Thompson: Who did you say you had heard were the proprietors of the sauce? Witness: I said I was told Lea & Perrins were the proprietors. Mr. Scott: I object to that being taken down. It is not in the least relevant to this summons. Mr. Thompson: Then I shall have to ask for a summons against Lea & Perrins. Mr. Scott (interrupting): One moment. If this goes on I shall have to apply to another court for your committal, Mr. Thompson. I hold in my hand an injunction from the Court of Chancery prohibiting you from making certain statements. After some further conversation, Mr. Scott said that though it was not proved that the sauce came from Mr. Mellor's, he was willing to meet the case on its merits, taking it as Mr. Mellor's sauce. The learned counsel then argued that the use of the words "trade-mark" was not sufficient to imply that it was a registered trade-mark, and pointed out that defendant was quite at liberty to use a trade-mark that was not registered. The Bench dismissed the summons, but refused costs to the defendant.

SCOTLAND.

Glasgow.

A Vitrioling Druggist.—On Monday, Andrew Higgins, chemist, was remitted to the Sheriff of Lanarkshire from the Northern Police Court, Glasgow, charged with having assaulted and injured two men in a shop at 6 Mathieson Road, on August 27, by throwing vitriol on them. Higgins has a shop in Garscube Road, and a shoemaker, named James Toick, lives in the back portion, entry to which is gained by a side-door in the close. Higgins called for the rent, but Toick refused to pay. An altercation arose, and ultimately Higgins took a bottle from his pocket and threw some vitriol from it on Toick. A struggle ensued, during which the remainder of the vitriol was spilled principally on the floor, but some of it fell on a man who was in the shop at the time. Toick and the other man were burned on the neck and arms, but the injuries are of a slight character.

Antifungin—borate of magnesium—is a white, sweet, innocuous powder, soluble in 4 parts of boiling water, and remains in solution upon cooling. A 15-per-cent. solution of it is one of the best antiseptics known. The solution should be kept in stone or black glass bottles.

Trade Notes.

THE COUNCIL OF THE PETROLEUM ASSOCIATION, through Mr. Boverton Redwood, their secretary, have issued a circular in which they call attention to the stringent provisions of the new Merchandise Marks Act. They consider that Act deserving of the attentive consideration of the trade in relation to the branding of petroleum.

MESSRS. EVANS, LESCHER & WEBB, of 60 Bartholomew Close, have sent us an advance copy of the second edition of their pamphlet on "Novel Counter Adjuncts," in which they describe at length and freely illustrate this interesting section of their business. The firm have given much attention to the task they have set themselves of providing a set of reliable, cheap, and stylishly got up preparations suitable for chemists' sale. The series of preparations already planned comprises over 120 different articles, and includes, besides such familiar friends as cod-liver oil, seidlitz powders, &c., such special compounds as "iodised sarsaparilla," "English hop tonic," "taraxacum compound," "steel and meat," "syrup of tolu and codeia," "laxative fruit lozenges," and many other medicines most convenient to the counter prescriber. There are besides an excellent variety of pills put up in white glass tube bottles and pearl coated, and all kinds of toilet requisites. The formulæ, as well as the finish of these goods, have been adopted with the utmost care, and the requirements of the Board of Inland Revenue have been fully respected. The supply of these goods is restricted to chemists, and they can be obtained in bulk or put up labelled as Hawley's or Savars, or as the retailer's own product. The pamphlet describing these goods is useful reading for any chemist, and we understand the firm will send a copy to any such person who may apply for one.

Personalities.

MRS. RACHEL LLOYD is assistant-professor of chemistry at the Nebraska State University, at a salary of $1,500 a year.

UNDER the style "Vve. Emile Raspail et ses Fils," a company has been started with works at Arceuil (France), and a house at 14 Rue du Temple, Paris, for the trade in drugs and pharmaceutical products. The company is formed for fifteen years with a capital of 400,000f.

MR. THOMAS GREENISH, of London, an ex-President of the Pharmaceutical Society of Great Britain, left Liverpool last Saturday by the s.s. *Servia* on a holiday trip to the United States; Mr. Charles Umney has temporarily abandoned Southwark Street for Switzerland; and Mr. Thomas Lynch is also freshening up his ideas in contact with the Alps. Mr. Joseph Ince, too, is resting at Lausanne.

OUR PATRIARCHS.—We asked last week if anybody could beat the record of Mr. Paul Wardroper, of Cullercoats, Tynemouth, who was apprenticed in 1817, and is still in business. We now hear that Mr. John Hope, of 12 Richmond Terrace, Chester, was apprenticed on the first day of 1816, and we also have the pleasure to print the following:—

SIR,—Will you kindly present my compliments to Mr. Paul Wardroper, of Cullercoats, Tynemouth, and inform him that I am his senior by two years, as I was apprenticed in 1815, at the time of the battle of Waterloo.

I remain, yours very truly,
36 Sloane Square, S.W., August 30. WILLIAM ASHTON.

Tape-holder writes:—I should imagine there will be some difficulty in upsetting Mr. Wardroper's claim to the title of "oldest druggist in business in the kingdom"; but I should like to hear who claims to be the oldest chemist in business in London, both as regards number of years in the trade and also as to length of time in one place of business. I have in my mind's eye one young aspirant to the title of "Father of the London trade"; but as his claim rests solely on the fact of having been connected with his firm in the various grades of apprentice, assistant, and partner for a trifling period of between sixty-four and sixty-five years, I hesitate to give his name lest his record should be ignominiously smashed by some even longer stager.

Gazette.

PARTNERSHIPS DISSOLVED.

RAY & JACKSON, Lowestoft, surgeons.

WARBRICK, H., & BRADLEY, W. (under the style of The St. Leonard's Mineral Water Company), Lancaster, mineral water manufacturers.

THE BANKRUPTCY ACT, 1883.

NOTICES OF DIVIDENDS.

CLAPHAM, REGINALD, Sunderland, formerly innkeeper, now aërated water manufacturer. Supplementary div. of 14*s*. $4\frac{1}{2}$*d*. and interest, and 20*s*. and interest on new proofs, Sept. 5. Official Receiver's Office, Sunderland.

HACKNEY, ANDREW, Birkenhead, mineral water manufacturer. First and final div. of 1*s*. $10\frac{3}{8}$*d*., any day. Official Receiver's Offices, Birkenhead.

WHEATLEY, THOMAS HENRY, & DAVIES, HARVARD ANDREW, Liverpool, photographic chemists and dealers. First and final div. of 1*s*. $5\frac{13}{16}$*d*., any day. Official Receiver's Offices, Liverpool.

ORDERS ON APPLICATIONS TO APPROVE SCHEMES.

CLARKE, RICHARD THOMAS, Milton-next-Gravesend, Kent, chemist and druggist. Composition of 5*s*. Receiving order rescinded.

OAKES, ARTHUR, Birmingham, surgeon. Composition of 11*s*., by four equal payments at three, six, nine, and twelve months.

BANKRUPTCY REPORTS.

Re GEO. BAILEY, Thurloe Place, South Kensington, Veterinary Surgeon.

THIS debtor applied on Tuesday to pass his public examination upon accounts showing liabilities 136*l*. 17*s*. 2*d*. and assets 14*l*. 15*s*. Mr. Tanner conducted the examination on behalf of the Official Receiver, and in reply to questions the debtor stated that he had been in business about ten years, commencing with a capital of 150*l*. In December last he sustained a broken leg in consequence of the overturning of a hansom cab, and during the time he was laid up a distress for rent was put into his premises. Had it not been for the accident he would not have been in his present position. The examination was ordered to be concluded.

J. L. WOODALL.

THE adjourned examination of John Leigh Woodall, formerly a chemist and postmaster at Neston, came on at the Birkenhead Bankruptcy Court on August 24. He was examined by Mr. Ring, deputy official receiver, as to an account he had filed of his receipts and payments for the last three years, and, having admitted that the account did not include a statement of the money he had borrowed during that time, the examination was adjourned *sine die*.

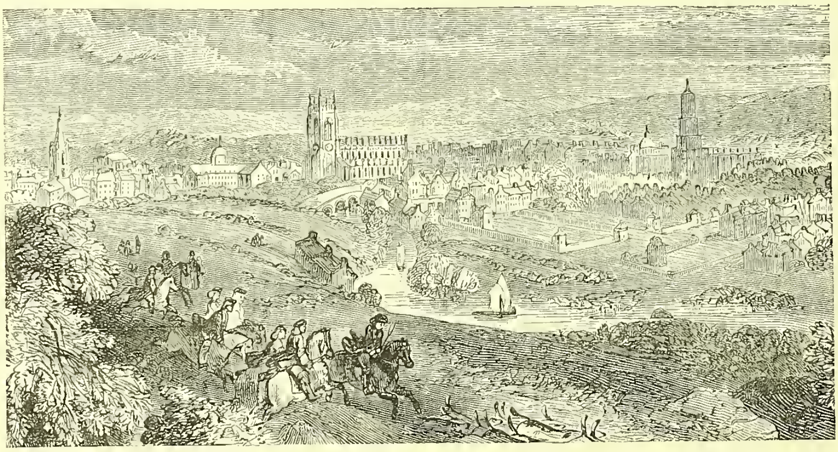
NEW COMPANY.

H. C. COX & CO. (LIMITED).—Capital, 2,000*l*., in shares of 1*l*. each. Object, to purchase the goodwill of the chemist's business, originally carried on for forty-eight years at 32 Ship Street, but now at 3 Ship Street, Brighton, and now devolved on Mr. H. E. Cox, and to resell the same, and invest the proceeds in any similar business, or divide the same amongst the shareholders pro ratâ, and to carry on the general business of chemists.

THE
British Pharmaceutical Conference.

TWENTY-FOURTH ANNUAL MEETING.
MANCHESTER, AUGUST 29, 30, 31, SEPTEMBER 1, 1887.

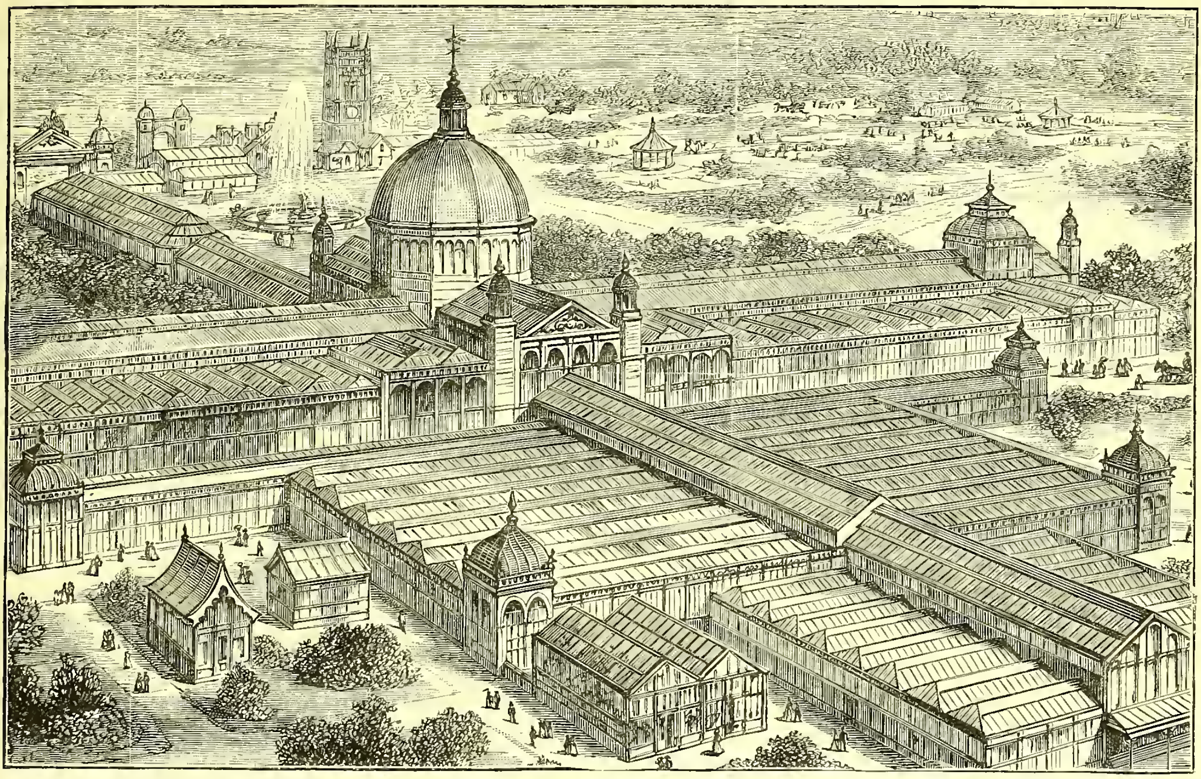
THE most successful meeting in the history of the British Pharmaceutical Conference—at least, as far as attendance goes—has just been concluded at Manchester. The members arrived so freely and at a time when Manchester was already rapidly filling for the British Association meeting, that the hotel accommodation of the city was strained to its utmost. A local committee, with Mr. G. S. Woolley as its chairman, and Mr. F. Baden Benger as secretary, had carried out the arrangements with such foresight that no hitch occurred at any point. The Jubilee Exhibition—which has already attracted over two and a half millions of visitors—provided far more in the way of sight-seeing than could possibly have been arranged by visits to factories; and such visits, which have frequently occupied a part of the time of past Conferences, were wisely dispensed with on this occasion.


MANCHESTER IN THE EIGHTEENTH CENTURY.

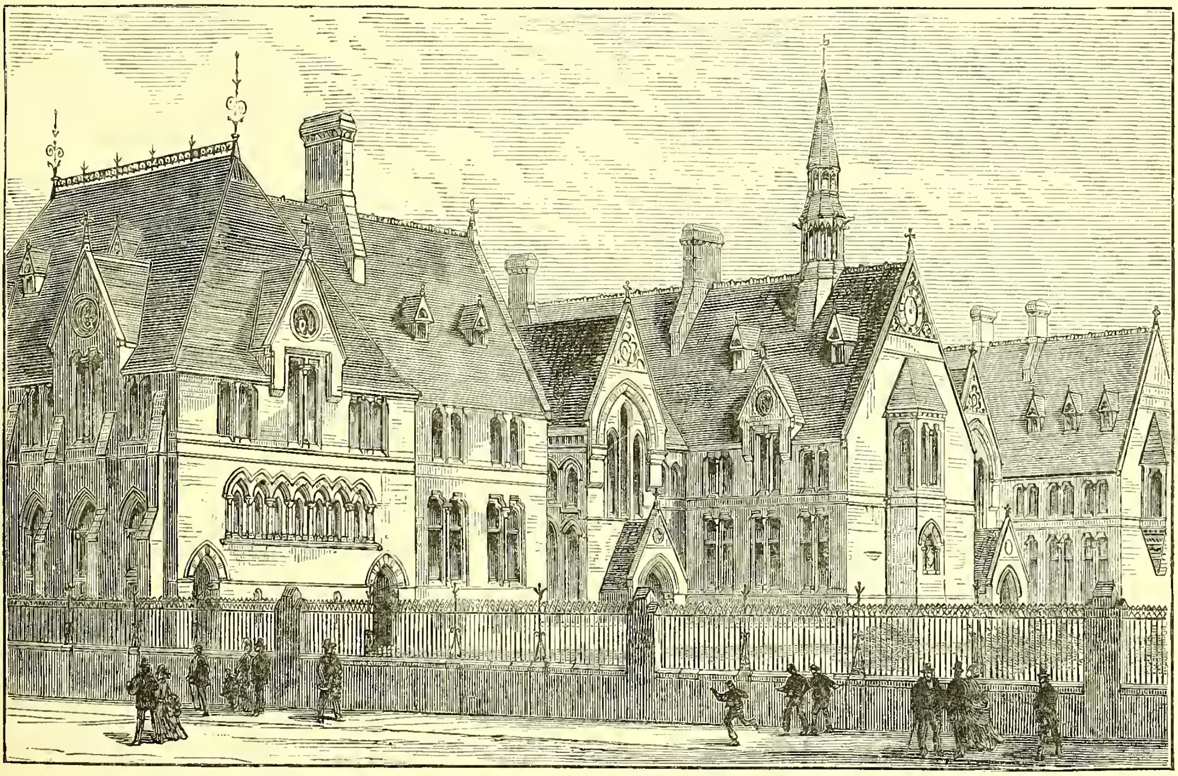
Manchester is far too well known to need any description in this place. As a city, it is one of the glories of the present century, and its Jubilee Exhibition most fitly commemorates its wonderful progress. It has been a city since 1847, and the seat of a university with power to grant degrees in the faculties of arts, science, and law since 1880. Owens College—the centre of the University—was first opened in 1851, having been founded by Mr. John Owens, a Manchester merchant, who left 100,000l. for the purpose. The College, in whose handsome and commodious chemical lecture theatre the Conference was held, was opened in 1873. Its chemical, physical, and physiological laboratories and classroom appliances are said to be the finest in the kingdom; and the geological, physiological, and anatomical museums are very extensive. The library contains more than 32,000 volumes of the best literature. There are 25 professors and 30 lecturers; 6 fellowships, 18 scholarships, 20 exhibitions, and many money prizes. The Manchester Royal School of Medicine has been incorporated with the College, and has extensive buildings at the rear of the college buildings.

The Reception.

It was a difficult matter to judge how many pharmacists and their fair friends shook hands with Mr. S. R. Atkins, the President of the Conference, and Mr. G. S. Woolley, the local chairman, on Monday night, difficult because the suite of rooms allotted by the Grand Hotel was wonderfully adapted for the purpose of the conversazione and for packing the company in an uncomfortable manner. But pharmacy was well represented from north, south, east, and west. Each of the three kingdoms sent its representatives, and at one time the concert-room became rather crowded and warm. We are not far wrong in saying that 200 were present. The local authorities were happy in the prospect of the Manchester meeting being the most brilliant in the history of the Association; the attendance, at all events, promised to be the biggest, and there were some whisperings that the "Unofficial Formulary" would create a sensation, and that the genial and popular President would have something particularly good to say. Amidst all this Mr. Vetter's band rendered some lively music, and an excellent quartette party did so well as to lull the conversation occasionally. The company, which began to flow in at eight o'clock, was at its fullest an hour later. Although this is only the second occasion that a reception has been tried, already the usher sported a wand, which some wag remarked was a sprout from the rod of Esculapius. The committee men wore favours, an exhibition of microscopic objects was added to the attractions, and altogether it was evident that the insti-



MANCHESTER EXHIBITION.



OWENS COLLEGE, THE MEETING-PLACE OF THE BRITISH PHARMACEUTICAL CONFERENCE.

tution had not passed its prime, although it had been told to "Go to Bath," and that Bath would not receive it.

We need not name those, eminent and obscure, who attended the conversazione, their names will be found in the list of those who signed the Conference roll. There was a fair attendance of ladies, but had an extempore dance been got up, there would have been a fearful scramble for fair partners. We are behind our American cousins in this respect. May we improve by next year!

From 9 to 10 A.M. on Tuesday morning members of the Conference began to wend their way to Owens College. A party of about eighty were conveyed from the Grand Hotel in vehicles provided by the local committee; but by the time they arrived at the Chemical Theatre already thirty or more were assembled there. The President, Mr. S. R. Atkins, took the chair amidst applause at 10.13, fully a hundred members and a sprinkling of ladies being present at that time. He was supported on the platform by Messrs. Brady, Reynolds, Schacht, and Williams, past presidents of the Conference, and by Mr. G. S. Woolley, the chairman of the local committee.

The first business was the

WELCOME BY THE LOCAL COMMITTEE.

The PRESIDENT called upon Mr. Woolley to address the Conference.

Mr. WOOLLEY said: I have the honour and pleasure on behalf of the pharmacists of Manchester district to offer to you a most cordial welcome on this the occasion of the first visit of the British Pharmaceutical Conference to Manchester, and I would at the same time express the hope that this meeting will prove to be what it shows very good promise of being—a very successful one; and further, that the arrangements which have been made by the local committee will render your stay amongst us both interesting and agreeable. (Cheers.) I am sure, sir, you will understand me when I say that the pleasure that I feel in standing here to-day is somewhat marred by the thought that he whose place I occupy is prevented by the state of his health from being with us. Everyone here will know Wm. Scott Brown. (Cheers.) But those who know him best will know how delighted he would have been to have stood here to-day to offer you a welcome in his own hearty manner. (Hear, hear.) The pharmacists of this district owe a large debt of gratitude to Mr. Brown, for whenever any movement has been on foot having the progress of pharmacy or the welfare of the pharmacists for its object, Mr. Brown has always been to the front, and it is fitting that his name should be mentioned on an occasion like the present. We are all looking forward with eager expectation to your address, and my instructions are that I should of all things be brief; therefore I do not propose to detain you, but there are one or two points with regard to our programme that I wish to touch upon. In the first place, we are indebted to the kindness of the authorities of Owens College for the pleasure of meeting in this beautiful and spacious theatre. (Cheers.) This privilege would be suitably acknowledged at a later period of the meeting. Another courtesy that I have to acknowledge is on the part of the Executive Committee of the Royal Jubilee Exhibition. (Hear, hear.) We have had a number of tickets put at our disposal for the conversazione that takes place next Thursday evening to meet the members of the British Association. Mr. Benger has charge of these tickets, and they will be available for members of the Conference who are not members of the Association; those who are members will go in of their own right. Just one other point that I wish to touch upon, and that is relative to our exhibition—an exhibition of which we Manchester folk are very proud. In connection with this exhibition, or at least an important part of it, is the machinery annexe, and there you will find represented the industries of this district. Our local committee have, I think, wisely decided to avail themselves to the fullest extent of the annexe, inasmuch as the members of the Conference can get a better idea in a few hours of the industries of this district than by wandering for several days from works to works. (Hear, hear.) I trust, ladies and gentlemen, when you have inspected the machinery annexe you will agree with me we have acted for the best. Now I would again offer to you and the members of the Conference a most hearty welcome, and trust you will take away with you from Manchester a very pleasant remembrance of your visit. (Cheers.)

Dr. LEECH (Professor of Materia Medica, Owens College) said he had very great pleasure on the part of the authorities of Owens College, and on his own behalf, to welcome them there. He assured them that the authorities of Owens College had had great pleasure in putting all the accommodation required at their disposal, and they were most wishful to do anything which might increase the pleasures of the meeting. He might say that it was not the first time the authorities of the college had shown an interest in the progress of pharmacy. They were the first to institute in an institution of that kind a system of pharmaceutical education. They had provided in this college lectures and laboratories for an education which would enable pharmacists not only to pass an examination but would fit them for the scientific work of their life. As professor of materia medica at the college he need not say he took a deep interest in the progress of pharmacy. He trusted that meeting would be a success in all respects, and that it would advance the interests of scientific pharmacy. (Cheers.)

The PRESIDENT said he desired to tender their hearty thanks to Mr. Woolley and Professor Leech for the hearty and truly Lancashire fashion in which they had welcomed them. He felt they were met under very favourable auspices. They came to this stirring, thriving, busy town under exceptional advantages. They would have the opportunity of seeing this wonderful exhibition, and altogether he felt that the auspices under which they met were most fortunate, and the prognostications were entirely in their favour. They were met in that very admirable building, in that, might he say, truly beautiful theatre, through the kindness of the authorities of Owens College, and he thanked again Professor Leech for the extremely kind way in which he had referred to them as pharmacists. He felt sure that those meetings would be promotive of the great purposes for which the Conference exists, and he was perfectly certain that they who were visitors to Manchester would receive great pleasure and no small profit intellectually; and if they could leave any pleasant recollections of their visit behind to those who were their hosts they would indeed, he thought, have accomplished largely the purposes of their visit. (Hear, hear.)

DELEGATES.

Dr. JOHN C. THRESH, one of the honorary secretaries, then read the following list of delegates:—

Pharmaceutical Society of Great Britain.—The President, Vice-President, Messrs. S. R. Atkins, W. G. Cross, R. Hampson, G. T. W. Newsholme, W. V. Radley, W. D. Savage, G. F. Schacht, C. Symes, and G. S. Woolley.

North British Branch.—Messrs. D. B. Dott, Daniel Frazer, Adam Gibson, A. Kinninmont.

Pharmaceutical Society of Ireland.—Mr. J. E. Brunker, M.A., Messrs. G. D. Biggs, F. J. Minchan, R. Simpson, J. Wells, and Professor Tichborn.

Aberdeen and North of Scotland Pharmaceutical Society.—Messrs. S. E. Broomhead, W. Giles, J. Johnston, and D. Ritchie.

Brighton Association of Pharmacy.—Messrs. Leigh and W. D. Savage.

Hawick Pharmaceutical Association.—Mr. T. Maben

Hull Chemists' Association.—Messrs. C. B. Bell and W. D. Hammond.

Leeds Chemists' Association.—Messrs. F. W. Branson, R. Reynolds, and G. Ward.

Leicester and Leicestershire Pharmaceutical Association.—Messrs. S. Burford, E. H. Butler, J. W. Clark, and J. G. F. Richardson.

Liverpool Chemists' Association.—Messrs. A. C. Abraham, J. F. Abraham, M. Conroy, A. H. Samuel, and W. Willings.

London Chemists' Assistants' Association.—Messrs. F. C. J. Bird, T. S. Dymond, and J. E. Saul.

Manchester Pharmaceutical Association.—The whole of the members of the Council.

North of England Pharmaceutical Association.—Messrs. N. H. Martin and J. Harrison.

Sheffield Pharmaceutical and Chemical Society.—Messrs. J. M. Furness, G. T. W. Newsholme, and A. R. Fox.

Midland Counties Chemists' Association.—Messrs. Perry, Wyleys, Thompson, Alcock, Haydon, Pullen, Hinds, and Jones.

APOLOGIES.

Dr. THRESH then stated that they had a number of letters and telegrams from gentlemen who, unfortunately, could not be present with them; some from former presidents, viz.: Mr. Stephenson, Edinburgh; Mr. Strachan, Aberdeen; Mr. Ransom, Hitchin, and a telegram from Professor Attfield, who said he had arranged to be present, but business prevented him. He expressed his regret for his absence, and his best wishes to all friends. Mr. Greenish, their late President, was also unavoidably absent through business; Mr. Barclay, of Birmingham, also wrote expressing his regret; Mr. Plowman, their late senior secretary, wrote that he was sorry he could not join them at the Conference, and he had written wishing success to the meeting. He had also a letter from the President of the Pharmaceutical Society, who was at present in Switzerland, expressing his great regret that he could not be present with them, but he had no doubt they would have a most successful meeting. (Hear, hear.)

The PRESIDENT said he had himself received two or three letters, one within the last quarter of an hour from Professor Dunstan, regretting inability to be present. Mr. Plowman had written him a very kind letter, and there were two or three others besides which he need not definitely refer to. If there was any gentleman present representing any association that had not been mentioned, they would be glad to hear from him. There was no reply.

REPORT OF THE EXECUTIVE COMMITTEE.

Mr. W. A. H. Naylor, hon. secretary, was then called upon to read the report of the Executive Committee. After referring to the resignation of Mr. Sydney Plowman, F.R.C.S., as hon. secretary, and paying a compliment to Mr. Philip Princep, who from 1881 until a year ago held the position of secretary to the Conference, and was compelled to resign owing to failing health, the Committee stated that the opportunity was taken to make the appointment of secretary on a new basis, whereby a considerable saving would be effected, and Mr. W. H. Ince was appointed assistant-secretary. The resignation of Mr. H. Shillinglaw, of Melbourne, as secretary for Victoria, and of Mr. Rider Haughton as secretary for New South Wales, having been referred to, and these gentlemen complimented for their services, the Conference was informed that during the past year a special issue of circulars regarding the objects of the body had been made to all who had been placed on the register of chemists and druggists since 1886, as well as to chemists in India and the Colonies, and already there was a prospect of an encouraging return. The conversazione of the previous evening, so successful in every respect, gave an opportunity for referring to the inauguration of this part of the Conference meetings, and the opinion was expressed, and received with applause, that the reception and conversazione ought to be permanently recognised as a part of the proceedings. The report concluded with reference to the appointment of Mr. Siebold as editor, and to grants given to Mr. E. M. Holmes for the purpose of investigating the culture and supply of *Aconitum Napellus*, and to Mr. W. Elborne for the investigation of strophanthus and strophanthin.

FINANCIAL STATEMENT.

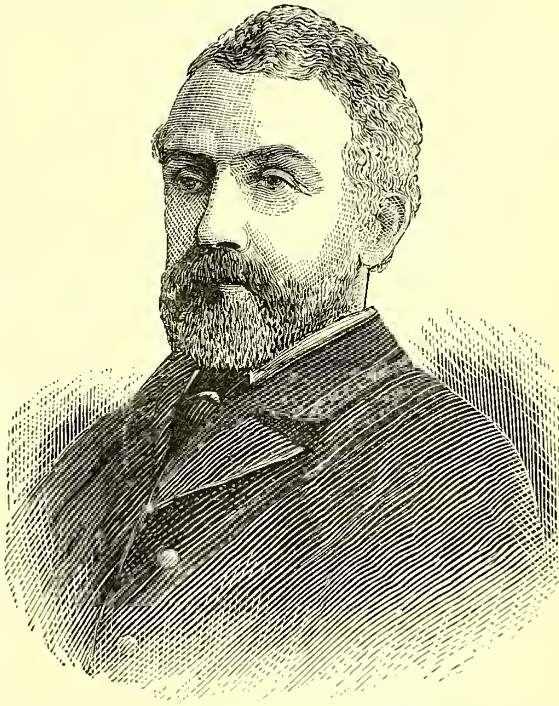
This was also read by Mr. Naylor. The year commenced with a balance of 337*l.* 7*s.* 4*d.*; members' subscriptions received amounted to 611*l.* 17*s.* 10*d.*; the Year-book yielded 124*l.* 1*s.* for advertisements, and 18*l.* 0*s.* 10*d.* for sales, and the index 79*l.* 17*s.* 10*d.* The outstanding liabilities, placed along with receipts, were 27*l.* 14*s.*, the total income thus being apparently 1,198*l.* 18*s.* 10*d.* Against this were the expenses of the production of the Year-book—617*l.* 6*s.* 8*d.* The Year-book index incurred expenses amounting to 54*l.* 15*s.* Salary to Secretary and expenses of Birmingham meeting were together 83*l.* 10*s.* 9*d.*; printing and stationery absorbed 86*l.* 1*s.* 5*d.* The Formulary Committee conducted its work at the small expense of 10*l.* Blue lists and the cost of their distribution. 15*l.* 1*s.* 4*d.* Petty cash—outstanding liabilities (alone, 145*l.* 19*s.* 5*d.*), a grant of 5*l.*, &c.—amounted to 161*l.* 7*s.* 3*d.* The balance which makes up the 1,198*l.* 18*s.* 10*d.* amounts to 70*l.* 17*s.* 5*d*, which is in the bank and on hand. So that the Conference is at present in a very critical financial position. The accounts of the Bell and Hill's Fund were also submitted. The fund amounts to 350*l.* of Consols, which last year yielded dividends of 10*l.* 3*s.* 6*d.* There is always a balance from year to year, and the only call upon the fund is a sum of about 10*l.* for a present of books to the local pharmaceutical association. Those given to Birmingham cost 10*l.* 13*s.* 7*d.*

Mr. WILKINSON, of Manchester, local auditor, certified that he had carefully examined the accounts, and believed them to be quite correct, an opinion in which Mr. Arblaster, his fellow-auditor, concurred.

The PRESIDENT then moved the adoption of the reports. He ventured to think that the general impression and result of listening to these reports was that they were satisfactory. They were, he supposed, like all records of human labour, the mingled experience of sunshine and shadow. That there were shadows in the forms of resignations and the loss, so far, of active workers they could not deny, but he thought that the sum total of these carefully drawn reports was that the Conference was in a thoroughly sound, healthy, flourishing condition. (Hear, hear.) He distinctly agreed with the report, and he believed he was expressing the entire conviction of the members of the Conference when he said that the conversazione so admirably inaugurated last year at Birmingham was a decided success. (Cheers.) The immense advantage to them socially—one of the great purposes of the Conference—of meeting each other before their business meetings began, and thus have the opportunity of that fraternal expression of regard and sympathy, renewing old friendships and forming new ones, was a very happy feature, and he ventured to think its success was so marked that it would be continued. With regard to the Formulary he would say simply that the report of the committee was printed, and copies would be handed to the members.

Mr. HARRY KEMP seconded the motion for the adoption of the report, and it was carried unanimously.

At the suggestion of the President it was resolved to forward a telegram of congratulation to the Conference of the German Apotheker Verein, now sitting in München.



MR. SAMUEL RALPH ATKINS, J.P. (SALISBURY), PRESIDENT OF THE BRITISH PHARMACEUTICAL CONFERENCE.

The President then proceeded to deliver the

THE PRESIDENTIAL ADDRESS.

A JUBILEE ADDRESS.

The honour you have conferred on me in electing me as your President is one that I most highly appreciate, although it entails responsibilities I shrink from trying to discharge.

At any time I should have felt my inability worthily to introduce and conduct your deliberations, but in this year, so memorable in the history of our country, and in the city of Manchester, I am most deeply sensible of the difficulty of my position. Enough, and perhaps more than enough has already been said respecting the Queen's Jubilee, and yet it would ill become me to omit all reference to it. Interested as we all are in the progress of science and in the development of the industries of our country, we cannot but be thankful that during fifty years stability has attached to the throne, and life and health have been continued to the monarch of these realms. Other and neighbouring lands have been agitated by revolutions, and have tried all possible varieties of government, but Great Britain has remained devoted to the House of Brunswick, and the recent celebrations have in a most remarkable manner brought to light the real depth of this devotion.

MANCHESTER AS IT WAS AND IS.

There is another topic on which I feel bound to say a few words as in some measure preparatory to the remarks that follow. We are assembled in the city of Manchester, a city whose history is strikingly illustrative of the progress of our country during the last fifty years. As the railways converging hither carry us through the dense forest of chimneys; as on our way through the streets we gaze on the long rows of warehouses, and at length stand before the majestic town hall, it is difficult for us who are comparative strangers to the place to imagine what Manchester must have been half a century since. The mail coach to London first started in 1787, leaving Manchester at 4 A.M., and professing to reach London "early the next evening," had indeed been superseded by the railway, but who could have supposed that in the course of fifty years the power of locomotion could have been so increased, and the trade and industry of the nation have been so developed as to make it possible that in 1887 as many as fifteen or twenty express trains should be running up to the metropolis every day, and performing the journey in four and a quarter or four and a half hours? This one fact speaks volumes. Again, fifty years ago, the amount of traffic between Manchester and Liverpool was such as to tax to their utmost extent the carrying powers of river, road, and rail; but what must the trade have grown to, and what must be the energy inherent in this great manufacturing centre, when it has become possible to float an enterprise which is to convert Manchester into one of the sea-ports of the kingdom?

And while the magnitude of the industries pursued in this district has become such as no one could have dreamt of in 1837, it is gratifying to observe that intellectual has kept pace with material progress. Education and scientific institutions have been extended. Manchester has proved itself worthy of its Quaker citizen, John Dalton, who fifty years ago was Professor of Chemistry and Mathematics in the George Street Academy and President of your Literary and Philosophical Society, but whom all the world now remembers as the discoverer of the atomic theory. Owens College has developed a taste for learning, and has led to the creation of the Victoria University, whose graduates will doubtless as time advances do their part towards extending the fame of Manchester as one of the great centres of thought in the United Kingdom.

And as the patroness of art, this city has taken a position not su passed by another city in the kingdom, except the metropolis itself. Music and painting have abundant admirers here, while the Art Exhibitions of 1857 and 1887 show that admiration of all that is beautiful in design and execution is not a mere passing fashion among men whose marvellous success in business has made them ambitious of surrounding themselves with the works once found only in the mansions of the aristocracy; but that there is a desire to promote the advancement of high art, and to give to all classes of the community an opportunity of enjoying its pleasures. In one word the history of Manchester during the past fifty years forces upon us the lesson that in all departments of life there must be incessant striving after progress. Education must be pursued with even greater energy. Especially is this the case with regard to the science of chemistry and its allies—the sciences in which, as pharmacists, we are specially interested. Pressed as we are in our purely business relations by the severe competition of the age, it behoves us to develop, as far as possible, the purely scientific portion of our work.

FIFTY YEARS' CHEMISTRY AND PHYSICS.

Within this half-century chemistry has made vast progress. The foundation of its success had been well and truly laid in the latter half of the eighteenth century and the beginning of the present century by a band of distinguished experimentalists scattered over Europe. Scheele, Lavoisier, Berzelius, Bertholett, Priestley, Davy, &c., were succeeded in our time by such eminent specialists as Faraday, Tyndall, Stokes, Hoffman, Perkin, Roscoe, and Crookes, &c. In 1775 Bergman, of Upsala, carefully examined the law of simple elective affinity. In 1803 Bertholett carried the inquiry still further. In 1766 Cavendish discovered hydrogen. In 1774 Priestley discovered oxygen. In 1819 Oersted discovered the law of electro-magnetism. In 1822 Seebeck, of Berlin, discovered thermo-electricity. Nobili, in 1826, observed that electric currents were produced by animal tissues. With these and similar tools in the workshop of research in physical science, Faraday proceeded to accomplish his own grand work. In 1802 Wollaston noticed the dark bands in the solar spectrum. In 1815 Fraunhofer produced a map of six hundred of them. Then follow Herschell, Miller, Wheatstone, and others, until Swan detects by spectrum analysis $\frac{1}{2500000}$ of a grain of sodium. And five new bodies are admitted to the sacred college of the elements, amongst which our distinguished President of the Chemical Society contributes thallium. In 1760 Black lectures on a new discovery—latent heat. Seguin, in 1839, and Mayer, in 1842, perfect their researches in the same direction. From 1822 to 1845 Faraday is employed in his researches on the relation of magnetism to light. These illustrations are taken from the realm of physics, but the truth equally applies to physic; a lengthened period of preparation has enabled the latter half of this century to reap magnificent results. And if I may be permitted still further to moralise as we pursue our way, I would remark how prone we are, dazzled with a brilliant victory, to forget the patient and laborious toil often extending over long long years that preceded it.

FIFTY YEARS' BOTANY.

The change of the old order to the new is equally manifest, if we contemplate for a minute the science of botany. Since 1837 botany has made such rapid strides as to have become almost revolutionised, except so far as relates to the simple description of plants and their parts and organs; although here much progress has been made. Nearly all is new in reference to vegetable histology, the bases of which were laid by Schleiden and Mohl in their researches on "The Development and Structure of the Cell." To improvements in the construction of the microscope and its use are due in a great measure the important advance in our knowledge of the internal structure and development of plants and their parts. In the physiology of plants very much is also new, but much still remains to be done, for which we must look in the future to the combined work of the vegetable physiologist, chemist, and physicist. In this age, in connection with botanical study, it is necessary to make a passing reference to the great researches of Darwin as to the origin of species, fertilisation of orchids, climbing and twining plants and tendrils, &c., &c. Passing to systematic botany on the classification of plants, we notice that in 1837 the artificial system of Linnæus was in common use in this country; the only attempt to introduce a natural system having been made by Lindley about 1830, but it was not until 1845 that he propounded his views fully in his great work on the "Vegetable Kingdom." But at the present time the Linnæan system, which even Linnæus himself regarded as but an introduction to the natural system which he designated as the *præmium et ultimum in botanicis desideratum*, has been entirely superseded by the natural systems founded more especially upon the arrangement of De Candolle, Lindley and Bentham and Hooker.

Our knowledge of flowerless plants in 1837 was entirely cryptogamic, but immense strides have since been made in all that relates to the structure of the cryptogamia, and the whole subject as regards these plants is now regarded with intense interest, owing to the great light it has thrown and is throwing on the cause of propagation and treatment of diseases as evinced especially by the formation of the new science of bacteriology and the antiseptic treatment of disease.

The Pharmaceutical Society.

Let us turn to another topic, and one in which we have a vital interest. In 1841 an association composed of the leading London and provincial pharmacists were formed, which resulted in the creation of "the Pharmaceutical Society of Great Britain"—a society which has done more to raise the position of the chemist and druggist of this country than has been achieved by any other corporate body for its constituents. The condition of pharmacy in 1841 and succeeding years explains the motives and the conduct of our founders. Our very existence was threatened; expansion and growth on the better side—the scientific and semi-professional—was attacked from a groundless suspicion as to our secret ambitions. Hence self-defence was the cry of the hour. History, in one respect at least, is ever repeating herself—the hour reveals the man. Pharmacy may well be proud of the men who then came to the front and championed her cause. A veritable galaxy of high-principled, self-sacrificing men they were, and as fixed stars they are destined to abide in the pharmaceutical heavens. Provincial chemists should never forget how much they owe to those men. The story has been well told, but I feel deeply, and at times sorrowfully, that it has not received the recognition it deserves. It may be we are yet too near the actors and the stage accurately to assess the value of their work, but I am strongly convinced in my own judgment that as time flies the founders of our Society will stand forth prominently revealed not simply as the benefactors of their own order, but of society. I am none the less conscious of the fact that to-day, struggling as we are with a competition as fierce as it is unprecedented, we can scarcely expect a fair and dispassionate appreciation of the philosophy of forty-six years since.

Jacob Bell, the Bayard of Pharmacy.

Disinterestedness was the prominent characteristic of those metropolitan pharmacists who headed the new movement, though self-preservation was the all-powerful instinct on which they played. The Bayard of pharmacy, "le preux chevalier, sans peur et sans reproche," was Jacob Bell, a man to whom we might apply the Laureate's words:—

> He seemed the thing he was, and join'd
> Each office of the social hour
> To noble manners, as the flower
> And native growth of noble mind.

Jacob Bell was a man of whom we may be proud. Naturally diffident and retiring, circumstances forced on him a prominence and a responsibility he neither sought nor coveted. Endowed mentally and socially with every qualification which to most men would have induced a let-alone policy, he threw himself with impassioned ardour into the cause, first of defence and then of progress. I remember, as a lad, meeting him about this time, and I gratefully cherish the recollection of the impression he produced on my mind, as to the purity and nobility of his aims. Jacob Bell united in himself, to an unwonted degree, the faculties, rarely combined, of breadth of view and attention to detail. Do we adequately appreciate the humbler of these virtues? Canova once excited the surprise of an onlooker that he was so careful as to the delicate touches in the less prominent parts of a statue.

> In the elder days of art
> Builders wrought with greatest care,
> Each minute and unseen part,
> For the Gods see everywhere.

Jacob Bell possessed a mind stored with rich and varied culture and a conscience sensitive to the slightest touch. His position was unique for usefulness in the direction to which he specially applied himself; wealthy and hence not suspected of a money-making ambition; occupying a position equally exceptional in his business relations with the medical profession; the intimate friend, and alternately the host and the guest of the recognised leaders in science and art, he stepped out from the ease and affluence in which he was placed, down into the arena of hard and oft of factious fight in the interests not of the privileged few but of the entire body of chemists and druggists in Great Britain.

17 Bloomsbury Square.—Its Founders and Progress.

Bell was loyally supported and seconded by such eminent men as Allen, Payne, Savory, Morson, and Dinneford and others. Indeed, my time and your patience preclude the briefest possible reference either to their worth or their work. But there are two eminent pharmacists happily still with us, to whom pharmacy and this Conference are deeply indebted, and whose names I venture to mention, Messrs. Thomas Hyde Hills and George Webbe Sandford. The Pharmaceutical Society found "a local name and habitation" at 17 Bloomsbury Square—the fountain-head of a river destined to widen and deepen as time rolls on. Growth follows in life: the movement was instinct with vital energy and development was correspondingly rapid. A library and museum were provided; a small laboratory was furnished; lectures were instituted, and fortunate in the highest degree was the Society in securing the services of such men as Thomson, Ure, Pereira, Fownes, and Redwood. The heart beating vigorously the result is active circulation throughout the extremities of the body. At that time pharmaceutical literature was conspicuous for its absence: we had no journal or newspaper in which our policy could be expounded, hence the necessity of holding meetings in the principal towns of the kingdom to explain the movement and secure adherents. A large measure of success crowned the effort; chemists at length began to perceive and appreciate the necessity of combination. The Society secured its Charter of Incorporation in 1843—the most important recognition the State could give, and secured at the cost of much forethought, labour, and anxiety. That document defines the objects of the newly incorporated body as education, protection of interests, and relief of distress. I have always thought that our founders were right—as to these objects, and, likewise, as to the order in which they placed them. It may not be uninstructive to inquire some forty years afterwards to what extent have these objects been realised? Within the term of nearly half a century not only have nearly all the founders passed away, but so also have the major part of the rank and file then in business.

Pharmaceutical Legislation and Training.

The Act of 1868 rendered examination a necessary condition of registration; for nearly twenty years the relative proportions of examined to unexamined men have been changing, and now are scattered all over the kingdom pharmacists with the hall-mark of the Society, whose competency I have no right to question. I have no wish to utter any sentimental nonsense about the "good old times," for I do not believe that they were better than the present. On the other hand, we need not be ashamed of those days. As apprentices we worked harder and longer than our youth do now, no doubt because we were obliged, and, it must be admitted, much of the work might have been done by the porter. There were as many incompetent and idle apprentices then as now; none the less, I fear that the conditions of apprenticeship in changing have not improved. The term of apprenticeship was longer, and the relations between pupil and principal closer, in so far as moral and intellectual influence is concerned. It is true there were no examinations to reveal our ignorance, few books to read, and no lectures to attend, so that in theory we were thinly clad, but in practical manipulation we were thoroughly equipped. The preparations of the Pharmacopœia were respectably turned out, so far as the appliances of a fairly well-appointed country laboratory would admit of. They were not always elegant by the light of modern standards, but they were known to be genuine, and they were home-made! In short, the principal of an establishment, having covenanted to teach his pupil as much of his craft as he knew, honourably fulfilled his part of the covenant. Such is the personal testimony I bear to a contract I duly signed, sealed and delivered—an indenture I am startled to find dating from 1843—my own humble charter of incorporation in pharmacy, dating from the same year as the charter of our Society. Under the old order of things there were chemists in every part of the country of superior culture and possessing a fair acquaintance with scientific research, but they were only a small minority. Much then remained to be done, and, I regret to add, much remains to be done.

The Question of Education

continues to be the question of the hour, and like other pressing questions of the day brooks no delay. It has been before the country for a long time; it has been the theme of more than one presidential address to the Conference; it has been discussed from every point of view by some of our ablest thinkers, and at length has secured a fairly strong consensus of opinion in favour of a compulsory training. In that verdict I heartily concur. I shall not pursue the question as to the methods by which that training shall be secured; it has been carefully treated by my predecessor and by Mr. Barclay, of Birmingham. I have confidence in the law of supply and demand; at the present moment the former is in excess of the latter. The voluntary principle, valuable in so many respects, has in this matter proved inadequate. The wreck of fondly cherished but illusive hopes in our examination rooms is a melancholy fact, but the victims deserve more pity than anger. I speak from an intimate knowledge of the Board of Examiners when I say that they do their duty fearlessly and fairly. But no examining body can be popular unless it pass all candidates, or we get within measurable distance of the Millennium. In one word, the mischief lies not in examination, but in the absence of training. I have for a long time felt that it is desirable to raise the standard of the preliminary examination. The middle-class education of England is in a most unsatisfactory state; the education imparted in our national schools has so improved since the passing of the Elementary Education Act that the errand boy is often more accurately grounded in knowledge than the apprentice; hence the desirability of making the initial test more stringent, and a correcter index of subsequent experience. I do most emphatically protest against the injustice of allowing youths to enter a calling, the conditions of which have never been explained to them.

The Compulsory Curriculum.

There is a tendency amongst a certain section of our *confrères* to speak of the times through which we are passing as merely a temporary crisis, the immediate phase of which will shortly disappear; hence the spirit of opportunism so prevalent. The sooner the error is recognised and rectified the better. We may see again in Great Britain the days of commercial, industrial, and agricultural prosperity we so long enjoyed, but we shall never return to the easy-going times of the past. We have entered on a new, if not a better, order of things; the competition of the age must be reckoned with as a permanent factor; let us hope that the survival of the fittest may be the result. The future condition of pharmacy in this country in all probability will be developed on the scientific and semi-professional side. Pharmacists are trained to the manipulation of a large number of minute transactions involving much care and no small anxiety, but each one financially of small moment. Such operations have no tendency to develop the business man in the ordinary acceptation of the term. The conditions of the average pharmacy are opposed to the habit of broad generalisation, so essential to success in other callings. I am not despondent as to the future, but I feel that our hope lies in cultivating the scientific rather than the merely trading side of pharmacy, for in this direction from the nature of things competition will be less acute, and remuneration for service rendered on a higher scale. Pharmacy has not wanted men who as true seers have perceived the nature of the coming struggle, and indicated the fashion in which it should be met. Such men were our founders, and such men are around me to-day. I honour a policy as beneficent as it is just. The times of insular ignorance and independence are ending. Each decade of years is breaking down separating walls and erecting the international—in short, the universal. Continental nations are fast becoming our rivals. France, Germany, Austria, Russia, Scandinavia, and even Spain demand a prolonged and thorough curriculum before an arts degree can be obtained.

Titles.

I am aware that I am within range of hostile fire; I shall be reminded that the countries I have mentioned protect the pharmacist when qualified. I admit both the force and the fairness of the retort. We have just ground of complaint; but this is neither the time nor the place for discussing our grievances. I merely remark that we shall not lessen them by maintaining the present standard of attainments. At a recent interview with the Chancellor of the Exchequer, on the question of endowing or subsidising the resources of our new universities, Sir Lyon Playfair uttered the following weighty words:—"The experience of commercial nations throughout the world was that the competition of industries was a competition of intellect." We found ourselves on that statement, and urge that pharmacy will be no privileged exception to the law. I do not ask for more stringency in the qualifying examination, but for more solid and abiding attainments; it would be an intellectual miracle if the work of years crowded into a few months could be made a lifelong possession. Beyond and above the qualifying examination, we must offer inducement to capable and aspiring students to pursue their studies. An honours degree—a fellowship in pharmacy—would be a suitable distinction. Such men we have amongst us; indeed, what would become of the Conference without them? I am not unsympathetic with the struggles of many excellent high-principled men who are perplexed as to the future, but the Conference discreetly declines to discuss the politics of pharmacy, a rock on which speedy shipwreck would ensue. There is a society whose function it is to guard their privileges, and if we have been unsuccessful in that direction, it has not been from the want of will, but of power.

Legislation not the Brightest Chapter.

It must be frankly admitted that pharmaceutical legislation is not the brightest chapter in our history. It is the old old story of internal dissensions and external hostility; reluctant to combine save under the pressure of impending danger, relaxing even that partial attempt so soon as the peril was passed, we have never yet succeeded in bringing to bear at one time on public opinion and on the Legislature the weight of the individual opinion of 14,000 associated men. I long for the unity of pharmacists with an intensity I cannot express, and I am prepared to make any personal sacrifices to achieve this end. When the central body representing pharmacy in Great Britain speaks authoritatively, not simply for its members but for the entire corporation of registered men, then will the impact of that influence be felt irresistibly in Parliament. Whilst referring to that assembly I venture to express the hope that ere long pharmacy may be directly represented there; special interests involving an acquaintance with many technical details require a trained specialist in the House to correct its judgment and assist in its special legislation. Manchester has placed science under an obligation in this respect. The ancient fires of hostility, I am thankful to believe, have largely died out, but too frequently to be followed by a supineness equally paralysing. I admit it to be a fairly debatable question whether our appeals to the superior courts have proved of any service to us; the judgments of those courts seeming to us most illogical and inequitable. We are tempted to exclaim with Goldsmith—

> How small of all that human hearts endure
> That part which laws or kings can cause or cure!

The British Pharmaceutical Conference.

Twenty-four years ago, in the busy thriving town of Newcastle-on-Tyne, my valued friend, the late Henry Deane, presided over the first meeting of the British Pharmaceutical Conference. We turn with unmingled satisfaction to the fact that we are "an organisation established for the encouragement of pharmaceutical research, and the promotion of friendly intercourse and union amongst pharmacists." Two forces at work in society are ever counteracting each other, the isolated action of the individual and the associated effort of the many. The value of the latter influence has been most happily and successfully illustrated in the history of the Conference; had it achieved nothing better it would have justified its existence. Hospitality has been so charming and profuse as to need a little wholesome checking; lifelong friendships have been formed, and slowly a much-needed *esprit de corps* has been fostered. But we exist chiefly and pre-eminently for the prosecution of original scientific research. It is pertinent to inquire How much of this work can we show after an existence of nearly a quarter of a century? A review of the facts prohibits boasting, but may prove an abundant incentive to greater exertion. If the work accomplished be regarded in the light of the well-nigh limitless field of inquiry, it dwindles almost to a vanishing point. That, however, is true of all research. The vastness of area necessitates division of labour, but before glancing at the special allotment in this field we are pledged to cultivate, it may be useful once again to ask what "research" means.

Original Research.

The attempt to compress into a sentence an answer to the question may only prove its partial truth. But may we not say original scientific research in its broad significance means the investigation and revelation of all the facts and phenomena of universal nature? Creation is the domain of science. There lies before each research worker not merely the boundless field of matter and law, but, if I may be pardoned the solecism, a field that actually tantalises him by disclosing fresh realms as he pushes his own discoveries. Man stands thus with his own brief life, still briefer when limited to the period in which his intellectual and physical powers by careful training are fitted for the enterprise in face of this fascinating complex problem. Enough to fire ambition and also teach humility. It can only be by a division of labour and a strict limitation of it to special subjects we assist in the general result.

> One science only will one genius fit,
> So vast is art, so narrow human wit.

Research as distinguished from invention, or the application of knowledge previously acquired, is surrounded with difficulties; hence the comparatively few who pursue it. Gifts of mind, knowledge of prior work, money, and suitable appliances to work with, are all needed. An industry bordering on enthusiasm, an indifference to vulgar unreflecting applause, the absence of lionising and public dinners, the non-necessity of mill-horse round of teaching others, such are favourable conditions for unlocking the secret casket of nature's inner mysteries The spirit of the age is not helpful to such results. We admit that the tendency to analyse is busy enough, and in its crusade neither institutions nor belief, however sacred and time-honoured, are spared; but of that we do not complain, so long as inquiry is exhaustive and inference not too rapid, for only falsehood shuns the light.

The Restlessness of the Age

is alien to research. The lifelong, though often barren, labours of the mediæval alchemist would be an absolute anachronism in our day. The desire to gather the harvest so soon after sowing is fatal to effort of the right sort. And yet, is it not strange that in an age that chafes under incertitude the very accuracy and finality of real research does not exert a more fascinating power—conscious, too, as the research worker well may be, that each conquest in nature he makes is the promoter of human welfare in some form or another? Occasionally the world has been startled by a great discovery that has revolutionised the entire field of search. Bacon, with his philosophy of induction; Newton and the law of gravitation; Galileo and the telescope; Torricelli and the barometer; Lavoisier's researches in the gases; Bertholet's discovery of the chemical law of electric affinities; Dalton and atoms; Faraday and magnetism; Darwin and evolution; Pasteur and germ—these and many others, too numerous to mention, have been the pointsmen on the line of research, diverting the train of inquiry into new territories. Working with laws revealed and with tools fashioned by the hands of such world-famous scientists, the educated pharmacist pursues his own investigation in pharmaceutical chemistry, &c.

The Records of the Year.

And what are the records of the year that closes to-day? We have not been surprised in the field of pure science by any great and startling discovery, but in pharmacology the year has not been barren. The principal facts to be mentioned are, an endeavour to supply remedial agents in a more presentable and agreeable form; to substitute for crude drugs their active principles; to eliminate from preparations of drugs substances that are inert, and which have been found to induce instability, or that would produce unsightliness, or that would be nauseous to the palate; to provide remedies of definite strength, or that at least would be more uniform in their composition. Primarily these improvements are due to an increase of scientific knowledge amongst those who practise pharmacy, and indirectly to the severity of commercial competition. The relative position of England amongst the nations in regard to chemical research is a matter in which probably many divergent opinions exist in this assembly. My own impression is that, in relation to pure science, her position is on an equality with the Continental nations, and in advance of that of the United States. The discoveries in this field are probably fewer than those of the Germans, but they are not less important or less brilliant. Of this fact the *Journal of the Chemical Society* and the "Proceedings of the Royal Society" afford ample proof. England, I believe, has a smaller number of professors of chemistry, but the character of their researches will bear favourable comparison with those of any civilised nation. I do not think so favourable a judgment can be passed upon chemistry in relation to the various industries (applied chemistry). In this country the industrial chemist has confined his study too nearly to the results of research, to the neglect of methods of research; hence the employment of German chemists in a large number of English chemical works. The need can only be met by supplying to English chemists the opportunity of a systematic technical training. You are doubtless aware that Continental nations provide these advantages, and an initial movement has been made in this country in the same direction. The strictly pharmaceutical work in both English and foreign laboratories during the past year is of a most interesting nature. Allow me to note some of it.

Cocaine.—The increasing extent to which cocaine is employed as a local anæsthetic, and the absence of uniformity in the various makes as they appear in commerce, justify a passing reference to the alkaloid.

Although recent investigations have considerably enlarged our knowledge of the chemistry of this base, there still remain obscure points which require for their settlement further experimental study.

Prominent amongst these is an inquiry now proceeding into the nature of the amorphous substance or substances which are commonly associated with the crystalline alkaloid.

Meanwhile, in view of the comparative ease with which cocaine can be obtained in a finely crystallisable condition, it seems needless to resort to other than the crystalline base.

Conine.—To Ladenberg, to whom chemical science is so largely indebted for its present knowledge of some of the alkaloids, belongs the proud distinction of having effected the first complete synthesis of a natural alkaloid. The amount of work done by this distinguished chemist ere success attended his efforts is most remarkable.

Indian Hemp.—Another important drug which has been made repeatedly the subject of chemical inquiry, and which has yielded various results to different investigators, has been examined by Jahn. He reports that the base he has isolated from Indian hemp he has identified as choline.

Lobelia Inflata.—The most recent attempts at effecting a separation of the proximate principles of the leaves and seeds of this plant have resulted in the isolation of two alkaloidal substances.

Not long ago Rosen announced that he has succeeded in extracting from this drug both a liquid and a solid base, identical with those he had previously obtained from *Lobelia Nicotianæ-folia.*

This statement of the existence of two alkaloids in lobelia seeds subsequently received confirmation from two American investigators. The observations of J. U. and C. G. Lloyd differ in some respects from those of Rosen. For one of these alkaloids they have retained the name *lobeline*, and the other they have designated *inflatine.* Of these the former, which is a powerful emetic, is colourless, odourless, and amorphous, forming non-crystallisable salts. The latter does not appear to have been possessed of pronounced therapeutic properties; these results are of considerable interest, and lead to the inference that the supposed volatile alkaloid of previous investigators was a mixture of bases contaminated with oil.

Strophanthin.—During the year some further interesting facts have been disclosed relating to the chemistry of the cardiac principle, first extracted from the seeds of the kombé arrow poison by Professor Fraser.

It is noteworthy that of those who have devoted themselves to the isolation and examination of the bitter substance resident in the fruit of *Strophanthus Hispidus*, Professor Fraser alone has obtained it in a crystalline or semi-crystalline condition.

The difference, according to this eminent physiologist, appears to be due to some variation in the seeds operated on. It is satisfactory to observe that the records of the published results of various workers agree in pronouncing strophanthin to be a conjugated compound, and the latest recorded series of experiments show that under the influence of the yeast ferment it readily splits up into glucose and a crystallisable substance which has been named strophanthidin.

Pepperette.—A clever imitation and adulteration of pepper has at length surrendered to the joint attacks of chemist and microscopist, leaving little doubt that ground olive stones have been largely supplied to the English market as a domestic condiment.

The new chlorate process is interesting to us in chemical industry as a striking illustration of the tendency profitably to utilise otherwise waste products.

The cheaper production of sodium by Castner's process will in all probability be attended by important results in chemical manufactures.

The synthesis of pilocarpine by Messrs. Hardy and Calmels deserves a passing notice—a fact of recent interest but of permanent value.

CONCLUSION.

Gentlemen, I close this imperfect and I fear tedious sketch of the Victorian era as it stands related to us as pharmacists, and especially as a Conference. I may be charged with being too visionary and not sufficiently practical, but I have found as the result of many years' experience that the pursuit of knowledge is, however small in measure, not incompatible with the discharge of humbler duties. I confidently hope and believe that the distinguished gathering I have this day had the honour to address will promote fraternal regard; that the papers which will be read and the discussion those papers evoke will assist the progress of truth, for—

Who are the great?
Those who have boldly ventured to explore
Unsounded seas and lands unknown before,
Soared on the wings of science wide and far,
Measured the sun, and weighed each distant star,
Pierced the dark depths of ocean and of earth,
And brought uncounted wonders into birth;
Repelled the pestilence, restrained the storm,
And given new beauty to the human form;
Wakened the voice of reason, and unfurled
The page of truthful knowledge to the world:
They who have toiled and studied for mankind,
Aroused the slumbering virtues of the mind,
Taught us a thousand blessings to create—
These are the nobly great.

In the course of his address the President was frequently and loudly applauded, and on sitting down the applause was again and again renewed.

Mr. BENGER, as local secretary, moved a vote of thanks to the President for his address. He said their President was already very well known to most of them, not only in connection with that Conference but also in connection with the Pharmaceutical Society. Many of them had been associated with him on the Council of the latter body, and he might remind them that at the last election he came out at the head of the poll. (Cheers.) Some of them had been associated with him on the Board of Examiners, and possibly there might be some present who might remember some kindly word of congratulation they had from him at the end of the examination or on winning a prize; and possibly in so large an assembly as that there might be one who might remember some equally kindly word of advice and recommendation to come up again when better prepared. (Laughter and applause.) To all of them their President had been well known as a man of large experience, of very wide culture, and most polished eloquence, and they came there that morning with very pleasant anticipations concerning his address. He did not think any of them would go away disappointed. For his own part he had listened to the address with very great pleasure, and he hoped to renew that pleasure when the address was printed. He moved tha the best thanks of the Conference be given to the President for the address. (Cheers.)

Dr. SYMES seconded the motion, and in doing so said that although the President regretted there was so much to be done in the advancement of pharmaceutical science, many of them must feel pleased that there was still so much work left for them to do, and that there were so many ready and willing to do it. Every item of additional knowledge would lift them to a higher platform, from which they would see there was still more to be done and larger fields to be conquered. The President had mentioned the advantage of microscopic study as associated with pharmacy. He (Dr. Symes) thought that in the study of pharmacy, botany, in particular vegetable histology, had not formed so important a part in the past as it would do in the future. Recently that had been recognised in the school of pharmacy at Bloomsbury Square, and in the appointment of the new professor of botany they had ventured to think it would be desirable to move in a direction in which vegetable histology would be taught as an essential part of the education of the pharmacists of the future. The President had enlarged on the advantages of scientific research, particularly as applied to pharmacy. In the plans for the new building at Bloomsbury Square there were a number of rooms marked "Research Laboratory," and it was hoped an amount of work would be done there which would benefit them all. As the President had reminded them, they were all practical pharmacists, and the essential thing for them, the aim and end of this education, was that they should better conduct the art of pharmacy; and it was natural that his mind should be led on to another point connected with this matter of research, and that was one which he had advocated at the Square—viz., that they should have also the teaching there of practical pharmacy. That was one of the things that lay before them in the future. In the past they had had some kind of teaching there, but in the no far distant future he hoped they would have the means of teaching the practical part of their calling, and enable them the better to do the duties of their every-day life. (Hear, hear.)

Mr. H. B. BRADY, F.R.S., as a past-president, put the resolution to the meeting, and it was carried unanimously by acclamation.

The PRESIDENT thanked Mr. Benger and Dr. Symes for the kind and handsome way in which they had proposed the vote of thanks. They were sincere words of his in which he expressed his consciousness of the responsibilities and the importance of the occasion, and of his unfitness to rise to it. But he did most heartily appreciate the fact that he had received their acknowledgment. The value of any acknowledgment in life depended upon the source whence it came—not merely on its sincerity, but on the capacity to judge by those who awarded it. He valued more highly than he could express their sense of approval. He had this great difficulty in attacking this question—that he had been preceded by a number of eminent men, who had so carefully harvested the results that when he went out to the field of these harvests he found but a few stray corns left behind. His desire was to collect these and present them as a sheaf of gleanings to them that morning. (Cheers.)

The President then called on Mr. W. Elborne to read the first paper, on Strophanthus, observing that the paper was the result of an investigation for which a grant on a previous occasion had been given by this Conference.

A REPORT ON STROPHANTHUS AND STOPHANTHIN.

BY W. ELBORNE, F.L.S.

[*Abstract.*]

A SAMPLE of commercial and of *Strophanthus Kombé* was examined and reported upon as follows. By proximate analysis it yielded 7 per cent. of moisture and 19·5 per cent. of fixed oil.

It was stated that the brownish-green colour of the oil is derived from the testa.

Absolute alcohol extract: 3·23 per cent. (judged on the extract obtained from 2·5 grammes of seed); 5·5 per cent. was obtained when 5 grammes were treated with boiling alcohol. This extract was found to be free from nitrogen, and on treating it for strophanthin by using lead subacetate and sulphuretted hydrogen in the usual manner, it was found that the glucoside was not decomposed by the sulphuretted hydrogen, as has been previously stated. He could not corroborate the statement of Fraser that strophanthin gives a well-defined precipitate with tannic acid. Reference was also made to the nature of the precipitate with lead subacetate and tannin. The latter dissolves in an excess of the reagent. Two methods for preparing strophanthin were given. The first was as follows:—(1) Make the powdered seeds into thin paste with water containing 10 per cent. of added alcohol, and allow the whole to stand for twelve hours.

(2) Then exhaust with a mixture of alcohol and rectified spirit, and evaporate the tincture to an extract, which extract dissolve in water and filter.

(3) The watery solution is next treated with lead subacetate and sulphuretted hydrogen; filtered and treated with amylic alcohol. The alcoholic solution upon evaporation yields strophanthin in the form of a non-deliquescent white powder.

In the other process the tincture is washed with a sixth of its volume of petroleum ether, before lead acetate is added as in the first process.

The author also gave the following new formula for *tincture of strophanthus*:—

Strophanthus seed	1 oz.
Absolute alcohol	18 fl. oz.
Distilled water	3 „
Rectified spirit	q.s.
Petroleum ether	

The powdered seeds are dried at a temperature of 120° F. and the oil removed by percolation with petroleum ether, and the marc dried. The water is mixed with 3 fluid drachms of absolute alcohol and added to the marc. After six hours' maceration the absolute alcohol is added and the whole macerated for twenty-four hours, the tincture filtered and made up to a pint with rectified spirit.

The President moved the thanks of the meeting to Mr. Elborne for his paper. (Applause.) He believed the work had been done in the laboratories of the institution, which invested the paper with a special interest. Before beginning the discussions, he ventured to offer the suggestion that, as they had a very large amount of work before them, they should do their best to concentrate and condense the debate as far as possible.

Mr. A. W. Gerrard (London) said the subject of the paper was one in which he had taken an interest, and he had himself contributed a paper on strophanthus and strophanthin. It was only to be expected that they should find some difference in the results arrived at by different workers. The difference in the percentage yield of extracts from seeds perhaps arose from the condition of the solvents employed. However, the differences were not so very wide. He might say that in his experiments he used tannic acid as the precipitant, because the substance being a glucoside it was very likely to go down with the tannin. He was still inclined to favour the use of that precipitant. He thought they were more likely to get a more definite chemical compound when they could throw down the body as a precipitate than when they extracted it with a solvent such as alcohol or amylic alcohol. He was glad to hear that Mr. Elborne had succeeded with that. He regretted they had not a specimen of crystalline strophanthin prepared according to Professor Fraser's method. He had repeated Professor Fraser's experiment, and succeeded in preparing a small portion of crystalline strophanthin, but it very soon underwent spontaneous decomposition, possibly owing to a small amount of impurity or a trace of sulphuric acid. The yield he obtained was exceedingly small, and, looking at that fact, it seemed to him that strophanthin would be a very expensive remedy, one of the most expensive known, if the drug maintained its present high price. If produced as an amorphous body it would be an uncertain product. They had much work to do before they had ascertained the true nature of the glucoside strophanthin. He hoped Mr. Elborne would work in the direction he had indicated, as he was doing himself. With reference to the oily matter he had set aside a portion some little time ago, and a crystalline body had separated out, so it was worth while to further investigate that. Then the body known as kombic acid was well worth investigation. He thought the matter should be taken up physiologically also, and some experiments made as regarded its therapeutic action. Tannic acid did not remove the whole of the active principle. Whether what remained behind was strophanthin or another bcdy he was unable to say, but it had been found to be exceedingly active. He asked Mr. Elborne whether he used sub-acetate of lead, and removed that by the use of sulphuretted hydrogen.

Mr. Elborne: Yes.

Mr. Gerrard remarked that in that case they must get acetic acid as the product. The amylic alcohol would, he thought, dissolve the acetic acid out. If so, it would be impossible to find acetic acid in the product, and he asked if Mr. Elborne had ascertained that.

Mr. Dott wished to know the object of adding absolute alcohol to the solution. He said that it was generally supposed that Professor Fraser only prepared a small quantity of crystallised strophanthin, but in reality he had a large quantity in the crystalline form. He quite agreed with what Mr. Gerrard had said as to strophanthin not being likely to become a preparation used in medicine. The galenical preparations of the drug were sufficient for all requirements, and must necessarily be very much better than the strophanthin itself. He would like Mr. Elborne to state if he had determined the composition of the product prepared with sulphurretted hydrogen, and compared it with the one in which acetic acid was used.

Dr. Symes had a word to say from a pharmaceutical point of view. The glucoside was so exceedingly rare and expensive that it was not likely for a long time they would know anything of it in practical use; therefore the medical profession would have to depend on the tincture for their results. Professor Fraser had given them the process of extraction with ether and the treatment by alcohol. It was admitted by him that a certain small portion of the strophanthin was removed by the ether. Mr. Elborne had suggested a modification of that process by the use of petroleum ether, and a complicated after-process. All who had investigated strophanthus and had separated strophanthin, had found that treatment with water would exhaust tbe drug. He had found that proof spirit exhausted the drug of the bitter principle and did not dissolve out any appreciable quantity of the oil. As far as he was aware, a perfect tincture could be made in this very simple manner. If it was so, he should like to ask Mr. Elborne why he offered a process so complicated.

Mr. Alcock asked whether Mr. Elborne examined the oily residue for strophanthin.

Mr. Long observed that they had many remedies for almost any and every disease to which the human body was subject, although they did not give entire satisfaction. Unfortunately they were getting inundated with a lot of new remedies about which very little was known, and which were very seldom required, therefore the investigation of them was important to show what they were. (Laughter.) With regard to the expense of this drug, if it proved to be a useful remedy there was no reason why it should not be cultivated in the quantities required for consumption.

Mr. Maben asked if Mr. Elborne had noticed a difference in the colour of different tinctures. He had two specimens made, he supposed, by Professor Fraser's process, for they were said to be approved by him. One he had examined was of a light yellow colour, and the other was clear and colourless.

Mr. Martindale stated that they had placed a formula for tincture of strophanthus in the "Unofficial Formulary." They had adopted Professor Fraser's formula. He thought at first, when working at the subject, that such a process as Dr. Symes's would suit. But he found that by using alcohol alone to exhaust the drug the process did not go on so rapidly or so satisfactorily as Professor Fraser's process, therefore they had adopted it. He should like to ask Mr. Elborne if he found the petroleum ether used for getting rid of the oil took little or no bitterness from the seed. The ethereal exhaustion did. He should like to know why Mr. Elborne suggested the use of petroleum ether rather than pure ether for the separation of the oil, because if there were no reason for deviating from Professor Fraser's formula they should like to have uniformity in the matter. With regard to Dr. Symes's process, he had not tried it, but he bad noticed that in trying to mix with water the drug contained such a quantity of albuminous matter that its miscibility with water was checked.

Mr. ELBORNE, in replying, said that, with regard to Mr. Gerrard's observations, undoubtedly the use of tannic acid as a precipitant was unsatisfactory, because the precipitate was soluble in cold water during washing. The great objection to its use, however, was that concentrated solutions had to be used, and when they were diluted the precipitate redissolved. The strophanthin made by his process compared very favourably with the crystallised variety made by Merck. It was perfectly non-deliquescent when exposed to the atmosphere. He was not prepared to say whether the amylic alcohol dissolved out the acetic acid; he could only judge from the result, and that was that the product obtained had a perfectly white colour. If any decomposition had taken place the product due to the liberated glucose would be possessed of a decided brownish colour. The first sample of fixed oil that he separated from strophanthus seed yielded some definite crystals of a fatty acid. The oil that he separated by means of petroleum ether did not contain any strophanthin. He added absolute alcohol after having exhausted the seed with water to precipitate the albuminous matter and to bring the solution to the specific gravity of rectified spirit, thus enabling a better product to be obtained than by exhausting with rectified spirit alone. The addition of sub-acetate of lead was to precipitate a substance, he was not prepared to say whether it was of an albuminous nature or not, but, at all events, it was a substance associated with the strophanthin not precipitated by alcohol. Dr. Symes asked if he had made any experiments with proof spirit. He might say he prepared several samples of tincture by means of proof spirit, and he could not say that the results were satisfactory, because the tincture upon being set aside became very cloudy, which was, to his mind, due to the large quantity of albuminous material extracted by the water in the proof spirit. Also the proof-spirit tincture, when diluted with a large volume of water (as might be the case with a mixture), and set aside for some days, underwent a very powerful decomposition, and developed a very fœtid odour. He recommended petroleum ether, because it was extremely difficult to obtain an ethyl ether sufficiently pure for the purpose of exhausting the seed. If the ether contained a very small percentage of water, or of alcohol even, some portion of the bitter principle was extracted. The fixed oil removed by petroleum ether did not contain any bitter principle. As to Mr. Maben's question, to his mind the difference in colour would be due to the kind of seed used. There were one or two varieties of the seed in the market, and he believed it was the current opinion that either might be used in the preparation of the tincture, although it was customary to use the greenish-brown one, which had been defined as *S. Kombé*. Therefore the difference might be due to the white variety of seed having been used, as that variety, of course, would not contain the same colouring-matter as the greenish-brown variety. For his own part he had not discovered any great variation in the colour of strophanthus tinctures.

Mr. NAYLOR then read a portion of a paper entitled a

CONTRIBUTION TO THE KNOWLEDGE OF CATHA LEAVES.

By PROFESSOR FLÜCKIGER AND T. E. GEROCK.

[*Abstract.*]

THIS was an extremely lengthy paper. In the introductory portion the authors gave a full botanical description of the plant *Catha edulis*. This was to a large extent of historical interest; the writings of P. E. Botta, Ch. F. Hockstetter, Major Harris, Dr. Anton Sticker, and others being referred to. The quotations gave full information regarding the collection of the drug, the uses to which it is put by the natives, the districts in which it is collected, and the channels through which it is exported. It was stated that the plant grows in the garden of Mr. Thomas Hanbury at La Mortala, near Mentone. The largest leaves are about 4½ inches long by 3 inches broad, and the margins of the leaf display about forty short, blunt teeth, ending with a glandular organ. The climate and soil of Mr. Hanbury's garden are specially adapted to the growth of the plant. It flowers for months in the winter and spring, but has not fruited.

Regarding the chemical composition of the leaves, it was pointed out that Attfield, Flückiger, and Paul, all at different times, have failed to obtain caffeine from the leaves, and Professor C. Schorlemmer (*Chemical News*, vol. xlviii. p. 225) has corroborated prior observations. The authors have recently examined 1,300 grammes of catha twigs obtained from Aden. This quantity was powdered and treated by percolation with 5 litres of water acidulated with oxalic acid. The percolate was evaporated to 2 litres, treated with caustic lye and then with light petroleum ether. This ether extract was purified, and ultimately 0·5 gramme of a thickish yellow matter was obtained, which dissolved in acetic acid and gave all the reactions of an alkaloid. The acetate formed was distinctly crystalline. To the alkaloid they propose to give the name *katine*.

The PRESIDENT said the thanks of the Conference would be conveyed to the authors of the paper. (Hear, hear.) He assumed there would be no debate upon it, but having seen a proof of the paper, he could say that it was the result of a very extensive series of inquiries, and revealed a very varied amount of intelligence in history, in geography, and in language. (Hear, hear.)

Mr. JOHN WILLIAMS next read a paper on

A NEW PROCESS FOR THE PREPARATION OF ACONITINE.

BY JOHN WILLIAMS, F.C.S.

[*Abstract.*]

THE author apparently rejected the process which he described at Birmingham, that which he now submitted being entirely different in principle from it. He takes the coarsely-powdered root of *Aconitum Napellus* and exhausts it by percolation with amylic alcohol which previously has been washed with water to remove ethylic alcohol. Contrary to his last year's advice, he could not now advise the use of any acid, such as tartaric, for aiding the extraction of the alkaloid, because it is unnecessary, and he also recommended that the process of exhaustion should be entirely conducted in the cold. The amylic alcohol percolate is of a pale straw colour, and does not contain the dark oleo-resin which is extracted by ordinary alcohol. The alkaloid is removed from it by shaking with water acidulated with sulphuric acid (1 drachm to 4 pints). Small but successive portions of this are used. Sulphuric acid is preferable to other acids, such as hydrochloric or tartaric, as aconitine sulphate is least soluble in amylic alcohol. After the acidulated water has extracted all the alkaloid, the water is shaken up with methylated sulphuric ether in order to remove traces of amylic alcohol. After allowing residual ether to evaporate by exposure, the alkaloid is precipitated from the aqueous solution by the addition of sodium carbonate, which is preferable to ammonia, for it affords better crystals. The precipitated crude alkaloid is collected, well washed with water, and dried—not quite completely. It is then treated with either alcohol or anhydrous ether at the boiling-point. The ethereal solution on evaporation deposits small, but microscopically distinct, crystals of aconitine as well as an amorphous body, and the latter is removed by washing with ether. The alkaloid also crystallises well from a solution in absolute alcohol, or even from a mixture of alcohol and water. After referring to some disputable points, Mr. Williams stated that he had recently examined a root which he had every reason to believe was that of *Aconitum ferox*, and had obtained from it an alkaloid which Mr. T. E. Groves had succeeded in crystallising, and which he thought was not of such a toxic nature as true aconitine.

The PRESIDENT said it would be a pleasure to them to accord a very hearty vote of thanks to Mr. Williams for his paper. It needed no apology from the author that the work was only partial, but they regretted very much that ill-health was the cause of it. If Mr. Williams had been experimenting with aconitine on his own body, he was not surprised that he was not in as good form as he should be. (Laughter.) He advised him to experiment on somebody else next time, and keep himself for future meetings of the Conference. (Laughter and applause.) He should be delighted when the subject of aconitine might be said to be finished, for, like the brook, the literature of it was flowing on for ever. (Renewed laughter.)

Mr. **Holmes** remembered when he was a student that aconitine was considered a most unsatisfactory body, but now they had at any rate a crystalline body fit to place in the hands of medical men for experiment. He asked whether it was German aconite or aconite cultivated in this country that Mr. Williams had experimented upon. If the latter, at what time of the year was it collected? It was not possible to get the German root of good quality at the price paid for it. It was collected by peasants and their children, probably when they had nothing else to do, and sold to farmers, and the original price must be low. Unfortunately, in the British Pharmacopœia the time for collecting was put at a very awkward period—viz. before the leaves appear. He did not know how the roots were to be found at such a period. If it was collected when the flowers appeared there would be a chance of getting the true root. He should also ask Mr. Williams whether he found any trace of picra-aconitine or pseudo-aconitine in the roots he examined?

Mr. **Conroy** asked Mr. Williams what percentage of alkaloid this aconite yielded.

Mr. **Burford**, in the course of some remarks, said that he thought Mr. Williams's process might be adopted for the extraction of alkaloids generally.

Mr. **Long** wished to know how they were to tell without investigation that the aconitine was absolutely pure, and how were they to use it for the cure of their patients? (Laughter.) He proceeded to make some amusing remarks on the potency of the alkaloid.

Mr. **Williams**, in reply, said he was not certain whether the root he used was German or English. He was obliged to buy aconite root in the market, and, although he tried to get the best, he could not trace its history. For this reason he was looking forward with great interest to what Mr. Holmes was going to produce for them. He had failed to find picra-aconitine. One alkaloid appeared to be yielded to the end by his process, except the little quantity of an amorphous body, which was very small in comparison with the quantity of crystals produced. He could not give Mr. Conroy the exact percentage, but he was quite certain that he obtained a much larger quantity of aconitine by this process than he ever did by the old process, because it was not destroyed and decomposed in the course of manufacture. He did not agree with Mr. Burford that the process was adaptable for the general extraction of alkaloids. He should not expect that it would answer for the extraction of morphia, but he had no doubt it would answer for the extraction of quinine. All bodies soluble in ether would probably work in that way; bodies insoluble in ether, he thought, would hardly yield good results. As to Mr. Long's question, if they had the crystallised article authorised the crystals would be a guide to any one in testing the purity of the article. As for its strength, the effort of this Conference and of all pharmacists was to get their alkaloids as pure as possible, and let medical men reduce them to their liking. But if they got an alkaloid of an uncertain strength they did not know whether to increase or decrease the strength of it. The standard they must strive for was absolute purity. (Hear, hear.)

UNOFFICIAL FORMULARY.

At this stage the Formulary was introduced, and we reproduce it here.

FORMULÆ.

The weights and measures adopted in the following formulæ are those recognised by the British Pharmacopœia. The drugs and preparations are also those of the British Pharmacopœia, unless otherwise defined.

Chloral cum Camphorâ.

Chloral with Camphor.

Take of

	Oz.
Camphor	1
Hydrate of chloral	1

Rub together in a warm mortar until completely liquefied, and filter if necessary.

Elixir Cascara Sagrada.

Elixir of Cascara Sagrada.

Take of

	Fl. oz.
Tincture of fresh orange peel	2
Rectified spirit	1
Cinnamon water	3
Syrup	6
Liquid extract of cascara sagrada	8

Mix.

Dose.—15 minims to 2 fluid drachms.

Elixir Guaranæ.

Elixir of Guarana.

Take of

Guarana,[1] in No. 60 powder	4 oz.
Light magnesia	½ „
Oil of cinnamon	6 minims
Syrup	2 fluid oz.
Proof spirit, a sufficient quantity	

Mix intimately the powders, and moisten them with 3 fluid oz. of proof spirit. After twenty-four hours' maceration, mix with 8 oz. of coarse sand and pack in a percolator; pass through proof spirit until 16 oz. are obtained, then transfer the mass to a press-bag and apply pressure. To the percolate add the syrup and oil of cinnamon, and make up to 1 pint by addition of the expressed liquid, previously reduced by evaporation if necessary.

Dose.—½ to 2 fluid drachms.

Elixir Simplex.

Simple Elixir.

Take of

Oil of bitter orange[2]	30 minims
Rectified spirit	6 fluid oz.

Dissolve, and add—

Distilled cinnamon water	7 „
Syrup	7 „

Mix. Filter through paper moistened with proof spirit and well sprinkled with kaolin, returning the first portions of filtrate until it passes through bright.

Dose.—20 to 60 minims.

Emulsio Olei Morrhuæ.

Emulsion of Cod-liver Oil.

Take of

Cod-liver oil	40 fluid oz.
Tragacanth, in powder	200 grains
Simple tincture of benzoin	½ fluid oz.
Spirit of chloroform	½ „
Glycerine	2 „
Oil of cassia[3]	2 fluid drachms
Distilled water, a sufficient quantity.	

Place the oil in a dry winchester quart, and pour in the tragacanth, tincture of benzoin, and spirit of chloroform previously well mixed; agitate briskly for a minute; then add all at once 1 pint of distilled water and agitate as before. Lastly, add the essential oil, glycerine, and sufficient distilled water to produce 4 pints. Shake vigorously for a few minutes.

Dose.—2 to 8 fluid drachms.

Extractum Grindeliæ Liquidum.

Liquid Extract of Grindelia.

Take of

Grindelia,[4] in No. 20 powder	20 oz.
Rectified spirit, a sufficient quantity.	

Moisten the powder with 8 fluid oz. of the spirit, pack it tightly in a percolator, and pour on sufficient menstruum to saturate the powder and leave a stratum above it. When the liquid begins to drop, close the lower orifice and macerate for forty-eight hours; then allow percolation to proceed, gradually adding menstruum until the grindelia is exhausted. Reserve the first 17 fluid oz. of the percolate, distil off the spirit from the remainder, and evaporate the residue to a soft extract; dissolve this in the reserved portion, and add enough menstruum to make the liquid extract measure 1 pint.

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[1] A dried paste prepared from the crushed or ground seeds of *Paullinia sorbilis*, Martius.

[2] A volatile oil obtained by mechanical means from the rind of *Citrus vulgaris*, Risso. Should be free from terebinthinate odour.

[3] A volatile oil distilled from the bark of *Cinnamomum cassia*, Blume.

[4] The leaves and flowering tops of *Grindelia squarrosa*, Dunal; and *Grindelia robusta*, Nuttall.

Dose.—10 to 30 minims.

Extractum Hamamelidis Liquidum.

Liquid Extract of Hamamelis.

Take of

Hamamelis leaves,[5] in No. 40 powder ..	20 oz.
Rectified spirit Distilled water	of each, a sufficient quantity.

Moisten the powder with 8 fluid oz. of a mixture of one volume of rectified spirit and two volumes of distilled water, pack it tightly in a percolator, and pour on sufficient menstruum to saturate the powder and leave a stratum above it. When the liquid begins to drop, close the lower orifice and macerate for forty-eight hours; then allow percolation to proceed, gradually adding menstruum until the hamamelis is exhausted. Reserve the first 17 fluid oz. of the percolate, and evaporate the remainder to a soft extract; dissolve this in the reserved portion, and add enough menstruum to make the liquid extract measure 1 pint.

Dose.—2 to 5 minims.

Extractum Hydrastis Liquidum.

Liquid Extract of Hydrastis.

Take of

Hydrastis,[6] in No. 60 powder	20 oz.
Rectified spirit Distilled water	equal parts, a sufficient quantity.

Moisten the powder with 8 fluid oz. of the diluted spirit, pack it tightly in a percolator, and pour on sufficient menstruum to saturate the powder and leave a stratum above it. When the liquid begins to drop, close the lower orifice and macerate for twenty-four hours; then allow percolation to proceed, gradually adding menstruum until the hydrastis is exhausted. Reserve the first 17 fluid oz. of the percolate, distil off the spirit from the remainder, and evaporate the residue to a soft extract; dissolve this in the reserved portion, and add enough menstruum to make the liquid extract measure 1 pint.

Dose.—5 to 30 minims.

Injectio Curare Hypodermica.

Hypodermic Injection of Curare.

Take of

Curare[7] (the South American Indian arrow-poison)	5 grains.
Distilled water, a sufficient quantity.	

Reduce the curare to powder in such a way as to prevent its coming in contact with the naked hand, and add distilled water to form a thin paste. Transfer to a small funnel plugged with absorbent wool, and gradually pour upon it distilled water until 1 fluid drachm is obtained. If the injection be required in haste, proceed in the following manner:—

To the 5 grains of curare reduced to powder add 1 fluid drachm of distilled water, throw on a filter, and when the liquor ceases to drop pour over the contents of the filter distilled water sufficient to produce 1 fluid drachm.

Dose.—1 to 6 minims.

Linimentum Opii Ammoniatum.

Ammoniated Liniment of Opium.

Take of

	Fl. oz.
Soap liniment	6
Compound camphor liniment	6
Tincture of opium	6
Belladonna liniment	1
Stronger solution of ammonia	1

Mix and filter.

Liquor Ferri Hypophosphitis Compositus.

Compound Solution of Hypophosphite of Iron.

Take of

Hypophosphite of calcium	320 grains
Hypophosphite of sodium	320 ,,
Hypophosphite of magnesium	160 ,,
Sulphate of iron	240 ,,
Carbonate of sodium	320 ,,
Hypophosphorous acid, sp. gr. 1·136	1 fluid oz.
Distilled water, a sufficient quantity.	

Dissolve the hypophosphites of calcium, sodium, and magnesium in 8 oz. of water. Dissolve the sulphate of iron and carbonate of sodium in separate portions of water; mix and wash the precipitated carbonate of iron with sweetened water until the washings cease to give a precipitate with solution of nitrate of barium. Transfer the moist precipitate to the solution of the hypophosphites, and add gradually the hypophosphorous acid. Make up to 1 pint by the addition of distilled water.

Each fluid drachm contains about 2 grains each of hypophosphite of sodium and calcium, 1 grain of hypophosphite of magnesium, and $1\frac{1}{2}$ grain of hypophosphite of iron.

Dose.—$\frac{1}{2}$ to 2 fluid drachms.

Liquor Picis Carbonis.

Solution of Coal Tar.

Take of

Prepared coal tar	4 oz.
Tincture of quillaia	1 pint

Digest at a temperature of 120° F. for two days, allow to become cold, and decant or filter.

Pilula Ferri (Blaud).

Iron Pill (Blaud).

Take of

Sulphate of iron	60 grains
Carbonate of potassium	36 ,,
Sugar, in powder	12 ,,
Tragacanth in powder	4 ,,
Glycerine	$2\frac{1}{2}$ minims
Distilled water	$2\frac{1}{2}$,,

Reduce the sulphate of iron to fine powder, add the sugar and tragacanth, and mix intimately. Finely powder the carbonate of potassium in another mortar, and thoroughly incorporate with it the glycerine and water. Transfer this to the mortar containing the sulphate of iron, beat thoroughly until the mass becomes green and assumes a soft pilular consistence, and divide into twenty-four pills.

Each pill contains about 1 grain of ferrous carbonate.

Dose.—1 to 3 pills.

Pix Carbonis Liquida Præparata.

Prepared Coal Tar.

Place commercial coal tar in a shallow vessel, and heat at a temperature of 120° F. for one hour, stirring frequently.

Syrupus Apomorphinæ Hydrochloratis.

Syrup of Hydrochlorate of Apomorphine.

Take of

Hydrochlorate of apomorphine ..	5 grains
Dilute hydrochloric acid	2 fluid drms.
Rectified spirit	7 ,,
Distilled water	7 ,,
Syrup	18 fluid oz.

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[5] *Hamamelis virginica*, Linné.

[6] The rhizome of *Hydrastis canadensis*, Linné.

[7] A dry inspissated extract of varying composition, prepared in South America from the bark of different species of Strychnos (principally *Strychnos toxifera*, Schomburgk) and other plants.

Mix the rectified spirit and distilled water, dissolve the hydrochlorate of apomorphine in the mixture by agitation; add the hydrochloric acid, and mix with the syrup.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

SYRUPUS BUTYL-CHLORAL.

Syrup of Butyl-chloral.

Take of

Hydrate of butyl-chloral	320 grains
Syrup, sufficient to produce 1 pint.	

Dissolve the hydrate of butyl-chloral in the syrup previously made hot.

Dose.—1 to 4 fluid drachms.

SYRUPUS CALCII, MANGANESII ET POTASSII HYPOPHOSPHITUM.

Syrup of the Hypophosphites of Calcium, Manganese, and Potassium.

Take of

Hypophosphite of calcium	320 grains
„ „ manganese	160 „
„ „ potassium	160 „
Boiling distilled water	4 fluid oz.

Rub together in a hot mortar till nearly dissolved, and add syrup sufficient to produce 1 pint.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

SYRUPUS CASCARA SAGRADA.

Syrup of Cascara Sagrada.

Take of

Liquid extract of cascara sagrada	4 fluid oz.
„ „ liquorice	3 „
Carminative tincture	2 fluid drms.
Syrup, sufficient to produce 1 pint.	

Mix.

Dose.—1 to 4 fluid drachms.

SYRUPUS FERRI HYPOPHOSPHITIS.

Syrup of Hypophosphite of Iron.

Take of

Sulphate of iron	232 grains
Distilled water (cold)	2 fluid oz.

Dissolve. Then take of

Hypophosphite of calcium	160 grains
Hypophosphorous acid, sp.gr. 1·136	2 fluid drms.
Distilled water (cold)	4 „ oz.

Dissolve; mix the two solutions in a closed bottle, and after standing one hour, filter the mixture on to

Sugar	15 oz.

Wash the precipitate with distilled water sufficient to produce 1 pint.

Dissolve without heat. This syrup should be kept in perfectly full bottles, and syphoned off bright when required.

Dose.—$\frac{1}{2}$ to 2 fluid drachms.

SYRUPUS FERRI PHOSPHATIS COMPOSITUS.

Compound Syrup of Phosphate of Iron.

Take of

Iron wire, free from rust	$37\frac{1}{2}$ grains
Concentrated phosphoric acid, sp. gr. 1·5	1 fluid oz.
Distilled water	5 „ drms.

Put these into a glass flask, so that the liquid completely covers the iron wire, plug the neck with cotton wool, and heat gently till dissolved. Add this solution to the following when the latter has cooled:—

Precipitated carbonate of calcium	120 grains
Concentrated phosphoric acid	4 fluid drms.
Distilled water	2 „ oz.

Mix and add

Bicarbonate of potassium	9 grains
Phosphate of sodium	9 „

Filter and set aside. Then take of

Cochineal	30 grains.
Distilled water	$7\frac{1}{2}$ fluid oz.

Boil for fifteen minutes and filter, pouring over the filter a sufficient quantity of distilled water to produce 7 fl. oz. of filtrate.

To this add

Refined sugar	14 oz.

Heat till dissolved, and strain. When cold add the former filtrate set aside, and a sufficient quantity of distilled water to make the whole measure 1 pint. Thus made, the syrup will contain in each fluid drachm about $\frac{1}{2}$ grain of phosphate of iron and $\frac{1}{5}$ grain of phosphate of calcium, with small quantities of the phosphates of potassium and sodium. It should be kept in bottles quite full.

Dose.—$\frac{1}{2}$ to 2 fluid drachms.

SYRUPUS FERRI, QUININÆ ET STRYCHNINÆ PHOSPHATUM.

Syrup of the Phosphates of Iron, Quinine, and Strychnine.

Take of

Strychnine, in powder	5 grains
Concentrated phosphoric acid, sp.gr. 1·5	75 minims
Distilled water	225 „

Dissolve, and add

Phosphate of quinine	120 grains

Dissolve by the aid of a gentle heat, and add syrup of phosphate of iron sufficient to produce 1 pint.

Mix thoroughly. Each fluid drachm contains 1 grain of phosphate of iron, $\frac{3}{4}$ grain of phosphate of quinine, and $\frac{1}{32}$ grain of strychnine.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

SYRUPUS HYPOPHOSPHITUM COMPOSITUS.

Compound Syrup of Hypophosphites.

Take of

Quinine (alkaloid)	20 grains
Strychnine	1 grain
Distilled water	$\frac{1}{2}$ fluid oz.
Hypophosphorous acid, sp. gr. 1·136	1 fluid drm. or a sufficient quantity

Dissolve, filter, and add

Syrup	sufficient to produce 5 fluid oz.

Then add

Syrup of the hypophosphites of calcium, manganese, and potassium.	5 fluid oz.
Syrup of hypophosphite of iron	10 „

Mix to produce 1 pint of syrup.

Each fluid drachm contains $\frac{1}{160}$ grain of strychnine and $\frac{1}{8}$ grain of quinine.

Dose.—$\frac{1}{2}$ to 2 fluid drachms.

TINCTURA BENZOINI SIMPLEX.

Simple Tincture of Benzoin.

Take of

Benzoin, in powder	2 oz.
Rectified spirit	1 pint

Macerate for twenty-four hours with frequent agitation, then filter, and add sufficient rectified spirit, if required, to produce 1 pint.

TINCTURA BRYONIÆ.

Tincture of Bryony.

Take of

Fresh bryony root[a] Rectified spirit Distilled water	of each a sufficient quantity.

Ascertain the percentage of moisture in the root by drying

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[a] *Bryonia alba*, Linné; and *B. dioica*, Jacquin.

100 grains of it over a water-bath. Bruise the remainder, after having calculated the moisture it contains, and reckon this as part of the water to form, with rectified spirit, a mixture equal in strength to proof spirit. Produce a tincture by macerating for seven days of such a strength as that 10 fluid oz. shall represent 1 oz. of the dried root.

Dose.—1 to 10 minims.

TINCTURA CARMINITIVA.

Carminative Tincture.

Take of

Cardamom seeds, bruised	600 grains
Stronger tincture of ginger	1¼ fluid oz.
Oil of cinnamon	100 minims
Oil of caraway	100 „
Oil of clove	100 „
Rectified spirit, sufficient to produce	1 pint

Macerate the cardamoms in 15 fluid oz. of the spirit for a week, decant, express, and dissolve the oils in the mixed tinctures, making up to 1 pint with rectified spirit.

TINCTURA CONVALLARIÆ.

Tincture of Lily of the Valley.

Take of

Lily of the valley flowers and stalks,[9] dried in No. 20 powder	2½ oz.
Proof spirit, a sufficient quantity.	

Moisten the powder with a suitable quantity of the menstruum, and macerate for twenty-four hours; then pack in a percolator, and gradually pour proof spirit upon it until 1 pint of tincture is obtained.

Dose.—5 to 20 minims.

TINCTURA COTO.

Tincture of Coto.

Take of

Coto bark,[10] bruised	2 oz.
Rectified spirit	1 pint

Macerate for seven days, with occasional agitation; then press, filter, and add sufficient rectified spirit to produce 1 pint.

Dose.—10 to 30 minims.

TINCTURA ERGOTÆ AMMONIATA.

Ammoniated Tincture of Ergot.

Take of

Ergot, in No. 20 powder	10 oz.
Aromatic spirit of ammonia, a sufficient quantity.	

Moisten the powder with a suitable quantity of the menstruum, and macerate for twelve hours; then pack in a percolator, and gradually pour aromatic spirit of ammonia upon it until 1 pint of tincture is obtained.

Dose.—10 to 60 minims.

TINCTURA ERYTHROPHLŒI.

Tincture of Casca.

Take of

Casca bark,[11] in No. 20 powder	2 oz.
Rectified spirit, a sufficient quantity.	

Moisten the powder with a suitable quantity of the menstruum, and macerate for twenty-four hours; then pack in a percolator, and gradually pour rectified spirit upon it until 1 pint of tincture is obtained.

Dose.—5 to 10 minims.

TINCTURA EUCALYPTI.

Tincture of Eucalyptus.

Take of

Eucalyptus leaves,[12] in No. 20 powder ..	4 oz.
Rectified spirit, a sufficient quantity.	

Moisten the powder with a suitable quantity of the menstruum, and macerate for twenty-four hours; then pack in a percolator, and gradually pour rectified spirit upon it until 1 pint of tincture is obtained.

Dose.—15 minims to 2 fluid drachms.

TINCTURA EUPHORBIÆ.

Tincture of Euphorbia.

Take of

Euphorbia,[13] in No. 20 powder	4 oz.
Proof spirit, a sufficient quantity.	

Moisten the powder with a suitable quantity of the menstruum, and macerate for twenty-four hours; then pack in a percolator, and gradually pour proof spirit upon it until 1 pint of tincture is obtained.

Dose.—10 to 30 minims.

TINCTURA HAMAMELIDIS.

Tincture of Hamamelis.

Take of

Hamamelis bark, in No. 20 powder ..	2 oz.
Proof spirit, a sufficient quantity.	

Moisten the powder with a suitable quantity of the menstruum, and macerate for twenty-four hours; then pack in a percolator, and gradually pour proof spirit upon it until 1 pint of tincture is obtained.

Dose.—5 to 60 minims.

TINCTURA HYDRASTIS.

Tincture of Hydrastis.

Take of

Hydrastis, in No. 60 powder	2 oz.
Proof spirit, a sufficient quantity.	

Moisten the powder with a suitable quantity of the menstruum, and macerate for twenty-four hours; then pack in a percolator, and gradually pour proof spirit upon it until 1 pint of tincture is obtained.

Dose.—20 minims to 1 fluid drachm.

TINCTURA IODI DECOLORATA.

Decolorised Tincture of Iodine.

Take of

Iodine	250 grains.
Rectified spirit	5½ fluid oz.

Dissolve by the aid of a gentle heat. When cold transfer to a stoppered bottle, and add of

Stronger solution of ammonia ..	10 fl. drachms

Keep the mixture in a warm place until decolorised, after which dilute it with rectified spirit, sufficient to produce 1 pint.

TINCTURA PRUNI VIRGINIANÆ.

Tincture of Wild Cherry.

Take of

Wild cherry bark,[14] in No. 20 powder ..	4 oz.
Distilled water	7½ fl. oz.

Macerate for twenty-four hours in a closed vessel, and add

Rectified spirit	12½ fl. oz.

Macerate for seven days; then press, filter, and add proof spirit sufficient to produce 1 pint.

Dose.—20 to 60 minims.

TINCTURA QUILLAIÆ.

Tincture of Quillaia.

Take of

Quillaia bark,[15] in No. 20 powder	2 oz.
Rectified spirit	1 pint

Moisten the powder with a suitable quantity of the menstruum, and macerate for twenty-four hours; then pack in a percolator, and gradually pour rectified spirit upon it until 1 pint of tincture is obtained.

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[9] *Convallaria majalis*, Linné.

[10] A bark of unknown origin obtained from Bolivia. In flat or curved pieces about 1 centimetre in thickness, and of variable length. The taste is aromatic and very biting. The transverse section is of a cinnamon-brown colour externally, and darker towards the inner surface.

[11] The bark of *Erythrophlœum guineense*, G. Don.

[12] *Eucalyptus globulus*, Labillardière.

[13] The herb *Euphorbia pilulifera*, De Candolle, collected when in flower and carefully dried. The involucral glands of the perianth are without appendages. The mature seeds are minutely wrinkled.

[14] *Prunus serotina*, Ehrhart. The bark collected in autumn.

[15] *Quillaia saponaria*, Molina.

TINCTURA STROPHANTHI.

Tincture of Strophanthus.

Take of

Strophanthus seeds,[16] reduced to No. 30 powder, and dried at 110° Fahr. .. 1 oz.

Pack in a percolator, and moisten with pure ether (sp. gr. ·720). Macerate for twenty-four hours, then allow percolation to proceed, continuing the addition of ether until the fluid passes through colourless (about 8 or 10 fluid oz. suffice). Remove the marc from the percolator, and dry it, gradually heating it to 120° Fahr. Again reduce it to powder, repack in the percolator, and moisten with rectified spirit. Macerate for forty-eight hours, then pour on successive quantities of spirit, percolating slowly, until 1 pint of tincture is obtained.

Dose.—2 to 10 minims.

In reply to Mr. Robertson the President stated that the report of the Committee on the Formulary had been accepted by the adoption of the report of the Executive.

The Conference then adjourned for luncheon.

On resuming Dr. Thresh read a

NOTE ON IPECACUANHA.

By F. Ransom.

[*Abstract.*]

It has been stated by Professor Flückiger that finely-powdered ipecacuanha root may be completely exhausted by percolation with boiling chloroform to which solution of ammonia has been added; and further that the weight of the dried residue obtained from the evaporation of the percolate fairly represents the proportion of emetine present.

As the result of experiment, the author was able to confirm the fact that ammoniated chloroform can be advantageously used for extracting the alkaloid; but he found that much colouring-matter, &c., was also present in the percolate, and that some method of purification is necessary before the amount of alkaloid can be gravimetrically determined.

The approximate amount of emetine present in the chloroformic solution may, however, be readily ascertained by agitation with very dilute sulphuric acid, and estimating the acid solution volumetrically with Mayer's reagent. Ten samples of commercial ipecacuanha were estimated by this method with the following results:—

	Emetine.		Emetine.
No. 1 contained	1·9 per cent.	No. 6 contained	1·7 per cent.
„ 2 „	2·3 „	„ 7 „	1·5 „
„ 3 „	1·3 „	„ 8 „	1·3 „
„ 4 „	1·6 „	„ 9 „	1·5 „
„ 5 „	1·7 „	„ 10 „	1·8 „

Average 1·66 per cent.

This is not in accordance with the experience of Professor Flückiger, who states that he finds on an average not more than 1 per cent of emetine present. In 1876 Stewart recorded 1·84 as the average strength of eight samples varying from 1·45 to 2·1 per cent. In his recently-published "Manual of Pharmaceutical Assaying" Lyons states that the proportion generally amounts to more than 2 per cent.

It was also stated that the roots containing the greatest amount of cortical portion were not always the richest in alkaloid, and this was supposed to be due to two such roots having been mouldy and afterwards washed and dried on arrival here in order to make them presentable. Kunz's paper on ipecacuanha was also referred to. This investigator gives the formula of emetine as $C_{30}H_{40}N_2O_5$.

Mr. Naylor confessed that he had never yet been satisfied with any process that he had worked in reference to this substance, because of the varying results. He did not see how that difficulty was to be got over until they settled once for all the composition, and had some further knowledge of the constitution of emetine itself. Beyond the point of obtaining crystallised emetine they did not appear to have reached. At the same time, he saw considerable value in the paper which had been presented to them, and he was surprised that the author had obtained such high results from the estimation of ipecacuanha. He (Mr. Naylor) certainly never obtained results approaching them. It would therefore appear that this process of Professor Flückiger was capable of extracting a much larger amount of emetine from the ipecacuanha, or along with the extract there was some foreign substance. He agreed with Mr. Ransom that it would be better to rely on gravimetric than on volumetric determination. He had had some experience with Mayer's process, and, under certain conditions and observing certain precautions, it was very accurate; but still he would give preference to some gravimetric method. He rather inclined to the old lime method, and had no reason to believe that that lime acted injuriously on the emetine. He believed it was by such a process that the crystalline emetine had been extracted. (Cheers.)

The next paper read

MACKAY BEAN, THE SEED OF *ENTADA SCANDENS*.

By John Moss, F.I.C., F.C.S.

[*Abstract.*]

Mackay Bean is a product of Queensland, and is said to be poisonous. After describing the bean and the fruit, the author gave in detail an account of his investigations in search of the principle to which the alleged poisonous properties are due. He examined the albumen and the integuments separately. The first gives no trace of either alkaloid or glucoside. The second contains a glucoside, which, from its behaviour and reactions, Mr. Moss believed to be saponin, and with more material he hopes to establish its identity. This is the only principle believed to be present which possesses poisonous properties, and these are not of a very pronounced character.

The President, in calling for a vote of thanks to the author, said the remark was made at the time of the Colonial Exhibition that no doubt it would furnish a very large ground of material for investigation. That remark was verified by the paper before them, and no doubt by other papers yet to follow, which would be written when the investigations in progress were completed.

Mr. Naylor said that it was worth noting that frothing alone was not a sufficient proof of the presence of saponin; some decomposition products yielded frothing bodies.

Mr. Holmes remarked in this connection that the root of the plant was used as a soap. Mr. Moss briefly replied.

Mr. Maben followed with a paper on

REPORT ON BLAUD'S PILLS.

By T. Maben.

(*Abstract.*)

This paper was based upon work done by the author in connection with the preparation of the Formulary. The Codex of 1884 gives the authoritative process for preparing "Pilules Ferrugineuses de Blaud," a process which has been in use in France for certainly more than twenty years. With the exception of what was evidently a misprint the process was transferred *verbatim* from the edition of 1866 to that of 1884—the mistake in the earlier edition consisting in directing the pill-mass to be divided into one hundred and twenty, in place of two hundred pills. The process is as follows:—

Pilules Ferrugineuses de Blaud.

	Grammes
Pure ferrous sulphate, dried and powdered ..	30
Pure potassic carbonate, dried	30
Powdered gum arabic	5
Distilled water	30
Simple syrup	15

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[16] The seeds, deprived of the apical hairy appendage, of a species of strophanthus growing in Eastern Africa, and usually referred to *S. Kombe*, Oliver. The seeds are plano-convex, of a greyish-green or pale-brown colour, 18 millimetres long and 4 millimetres broad in their greatest diameter, rounded at the base and tapering at the apex, covered with appressed silky hairs, which become much shorter towards the apex of the seed, and furnished on the flat side with a longitudinal ridge, disappearing below the middle of the seed.

Dissolve the gum in the water in a porcelain capsule by the aid of a water-bath: add the syrup and the sulphate of iron. Stir for several seconds in order to render the mixture homogeneous, add the carbonate of potassium previously powdered, stirring constantly with an iron spatula, and continue the heat until the mass has acquired a pilular consistence, rather hard than soft. Withdraw from the fire and divide the mass into two hundred pills, which are to be dried in a hot-air chamber and silvered. Keep in well-stoppered bottles. Each pill weighs about 40 centigrammes.

The chief point that strikes us in connection with this formula is that dried sulphate of iron is used. The Codex gives no directions for drying this salt and no indication of what its composition is, but we may safely assume that it will be correctly represented by the formula $FeSO_4,H_2O$. Each pill, prepared as above, weighs about 6 grains, and contains 2·3 grs. of dried ferrous sulphate and a like quantity of dried potassium carbonate, this being equivalent to 1½ grain of ferrous carbonate. There is an excess of alkaline carbonate over that required to effect decomposition, but this does not materially affect the main point, viz.: Blaud's pills are prepared, according to the Codex, with dried ferrous sulphate, and each pill contains 1½ grs. ferrous carbonate.

Considering whether we are justified in departing from the French process and adopting one of our own, the author pointed out that the pills are French in origin and name, and for various reasons it seemed reasonable that we should adopt the Codex as our guide; but the question arose, Was this the best process for attaining the desired result? And again, What is the desired result or the "intention of the prescriber?" The reply to this was, that it was the object to make a pill containing ferrous carbonate, and to preserve the pill from oxidation according to the means laid down in the Codex; facts well understood forty years ago.

The author then proceeded to show how far Blaud's pills, prepared by British methods, are similar to those prepared according to the Codex process. Martindale, who stands *facile princeps* in the region of pure pharmacy, has lent the authority of his name to a method in which crystallized ferrous sulphate equivalent to 1 gr. of ferrous carbonate is employed. On the other hand, others recommend dried sulphate in the proportion of 1 gr., 1⅓ gr., and 1¾ gr. ferrous carbonate. As to the ideas of medical men, they have come to think that the pills are simply pills containing sulphate of iron and carbonate of potassium. In numerous cases they are content to write—

Ferri sulph. .. .. gr. iiss.
Potass. carb. .. .. gr. iiss.
M. ft. pil.

and leave the compounding of the pill to the judgment of the dispenser.

Commenting on the wisdom of medical men leaving the pharmaceutic art to the pharmacist, the author quoted the following directions by a medical writer regarding the preparation of the pills: "Blaud's pills.—A commonly ordered pill is one containing 2½ grains each of sulphate of iron and carbonate of potassium; a little soft paraffin and cacao butter will form a good mass without encouraging chemical action; or the salts can be rubbed together and allowed to stand for half an hour, when a soft paste results which can be made into a mass with tragacanth powder and a drop of water." These two processes are, to use the mildest possible term, extremely unsatisfactory, and it is difficult to understand how either of them could have been recommended save by a theorist who had never attempted to put his ideas into practice. To begin with, they contradict each other. The intention of the first, evidently, is that the pills may be made with as little chemical action as possible; the second expressly provides for the maximum amount of chemical action. Again, it is not the case that the first process prevents chemical action if crystallized sulphate and hydrous carbonate are employed; the reaction proceeds in spite of the soft paraffin. With dried salts the result may be different. Lastly, the alternative process is as bad as could possibly have been suggested, inasmuch as there is nothing to prevent the oxidation of the ferrous carbonate, and it is simply a question of time till the pill consists for the most part of ferric oxide. Having reference to theories such as these it will be admitted that pharmacists are an essential part of the social fabric, and that their services could ill be dispensed with. Some pharmacists and medical men appear to think that the ferrous carbonate should be formed after the ingestion of the pill, and hence they recommend that dried sulphate of iron be employed in order to delay chemical action as much as possible. The Codex orders the dried salts, though by no means with the view of preventing chemical action; and, however much we may wish to follow that authority, there are undoubtedly objections to the use of the dried sulphate. In the first place its composition is uncertain; unless great care be taken in the drying there is the possibility of its partaking of a more or less basic character, which would interfere to a certain extent not only with the strength of the dose, but also with the reaction. There is a popular notion that pills prepared with the dried sulphate are peculiarly uniform and stable, but this is erroneous. It is absolutely certain, in spite of all medical opinions to the contrary, that if an aqueous excipient be employed, no matter how Blaud's pills are prepared, some reaction will take place, and the use of dried sulphate makes no exception to this rule. The author has ascertained repeatedly that there is a loss of ferrous salt when pills are so prepared. For example: Blaud's pills, prepared without heat, with dried sulphate of iron, sugar and glycerine—each pill contained, by theory, 1·04 gr. $FeCO_3$; when made, 0·98 gr.; after 2 weeks, 0·80 gr.; after 4 weeks, 0·71 gr.; and after 6 weeks, 0·60 gr. $FeCO_3$.

This change is explicable on one of two hypotheses. Either the sulphate has been converted into carbonate and then into ferric oxide, or a portion of the sulphate has been split up into ferric sulphate and ferric oxide. In either case, a reaction has taken place; in neither case will all the iron reach the stomach in a ferrous condition. In a paper on Blaud's pills (CHEMIST AND DRUGGIST, xxx. 414), Mr. Duncan gives the results of estimations of some samples, and three of these, he assumes, judging from the quantity of ferrous salt present, to have been made from the dried sulphate. It would be impossible to draw any reliable conclusions from the figures given, unless we knew (1) how much ferrous sulphate was put into the pills, and (2) how long they had been kept previous to estimation.

As to the use of the dried sulphate the author's experience was that pills made from it always contained more ferric salt than when prepared from the hydrous sulphate. He also combated the theory as to the formation of ferrous carbonate in the stomach, showing that the hydrochloric acid of the gastric juice would decompose the potassium carbonate, and thus prevent the alleged decomposition, and concluded that the theory is absurd in itself, and the fact that it has been propounded by medical men has led some timid pharmacists to talk a good deal of nonsense, which has surely reached its climax when we are seriously asked to believe that capsules containing ferrous sulphate and potassic carbonate done up in the form of a salad will give a sure and certain dose of ferrous carbonate.

The author then proceeded to consider how much ferrous carbonate each pill should contain. For 1½ gr., 3¾ grs. ferrous sulphate and 2¼ grs. potassium carbonate are required, which would make a larger pill than we are accustomed to, but still its bulk would not be much, if anything, over that of an ordinary 5 grain pill. Medical men have, however, become so accustomed to prescribe 2½ grains of each, and the author adheres to this proportion, so far as ferrous sulphate is concerned; 2½ grains being equivalent to 1·04 grain anhydrous ferrous carbonate. He prefers the granular sulphate, although he does not find pills made with it to possess any advantages over those made with the large crystals. The essential requisites for Blaud's pill mass are, therefore:—

(1.) That it be a good workable mass; not too soft and not too hard. It will be found in practice that a mass can be made without the addition of any moisture, the water of crystallization which is set free being sufficient excipient of itself. Such a mass, however, contains less ferrous carbonate than one prepared with the addition of a small quantity of glycerine and water. Moreover, the harder the pill mass, the greater the liability to oxidation. A very soft pill, with glycerine as the excipient, oxidises much less rapidly than a hard pill, and, consequently, the author recommends the addition of a little moisture, especially where gelatine coating is not resorted to.

(2.) The reaction should be complete before the pill mass leaves the mortar, which is not a matter of difficulty.

(3.) That the largest possible amount of ferrous salts be retained in the pill. With ordinary care ·95 grain of ferrous carbonate may generally be obtained from $2\frac{1}{2}$ grs. of the sulphate.

(4.) That precautions be taken to prevent oxidation. Of the expedients employed for this purpose, sugar and glycerine are the most serviceable. The Codex uses the former, but the latter is even more satisfactory. Experiment has proved that pills made with sugar oxidise more rapidly than those made with glycerine, as, for example, with sugar each pill, after six weeks, gave 0·7 gr., and those with glycerine gave 0·9 gr. ferrous carbonate. The objection to glycerine is its hygroscopic character. The author prefers to use a mixture of sugar and glycerine. Pills so made gave (when fresh) 1 gr. $FeCO_3$. At the expiry of two weeks each gave 0·87 gr. $FeCO_3$; four weeks, 0·81 gr.; six weeks, 0·80 gr.

The result of the absence of both sugar and glycerine is well seen in another example in which each pill contained, two months after preparation, 0·30 gr. $FeCO_3$; in other two months, 0·12 gr., and this is the inevitable result of preparing the mass without protectives.

There is still another method for protecting the pill from oxidation, viz., coating. This is employed in addition to the means already referred to, the object being to preserve the pill from contact with the atmosphere. It is now admitted that taken over all gelatine forms the most satisfactory coating for pills, and, in addition to its other virtues, it prevents in a large measure, if not absolutely, the oxidation of the ferrous carbonate. For example, pills prepared with sugar and glycerine gave, when made ·98 gr. $FeCO_3$. They were slightly dried in hot air, and then coated with gelatine. Each pill, after the lapse of two weeks, showed ·92 gr., and after four weeks, ·90 gr. $FeCO_3$. If, therefore, the pills are carefully prepared and rapidly coated with gelatine, we may have every confidence when we send out Blaud's pills that they will really contain a large proportion of ferrous carbonate.

The quantity of potassium carbonate in each pill is a point of some importance. The author finds that pills prepared with an excess of carbonate oxidise more readily than those prepared with the theoretical quantity. For example, pills prepared with $2\frac{1}{2}$ grs. each ferrous sulphate and potassium carbonate gave after two months ·6 gr., whereas those prepared with $1\frac{1}{2}$ gr. of the carbonate gave ·7 gr. ferrous carbonate. Mr. Duncan's experiments supply corroborative evidence on this point. Pills made according to Ince's form oxidised more rapidly than those made by Martindale's.

On a review of all these facts, the author recommends the following process:—

Take of

Sulphate of iron	60 grains
Carbonate of potassium	36 „
Powdered sugar	12 „
„ tragacanth	4 „
Glycerine	5 minims
Distilled water	5 „

Reduce the sulphate of iron to fine powder, add the sugar and tragacanth and mix intimately. Finely powder the carbonate of potassium in another mortar and thoroughly incorporate with it the glycerine and water. Transfer this the mortar containing the sulphate of iron, beat thoroughly till the mass becomes green and assumes a soft pilular consistence, and divide into twenty-four pills. Coat the pills with gelatine, previously drying them in hot air if necessary. Each pill contains about 1 grain of ferrous carbonate.

The PRESIDENT, in asking for thanks to the author, observed that no doubt the paper would lead to an extremely interesting and useful debate.

Mr. MARTINDALE said the subject was one in which he took a great interest. He had always looked upon these pills as a retrograde movement. He thought the pill of carbonate of iron of the Pharmacopœia was a much more definite and satisfactory pill. He did not know who Blaud was. He looked the matter up out of curiosity when he knew the subject was coming before them, and he found in the first volume of the *Pharmaceutical Journal* there was a paper by the editor, Jacob Bell, which rather disagreed with Mr. Maben, on the subject. The dried sulphate was recommended, but dried very carefully at a temperature not above 30° or 40° C. The iron thus treated only lost about 20 per cent. of water. His (Mr. Martindale's) workings had been on that line of late, and in accordance with the French Codex. They had the pills not only to make, but to keep, and keep coated, so as to be saleable for some length of time. He was inclined to think Mr. Maben made them to be kept only a very short time in the most presentable condition, and containing the most ferrous carbonate. But made in that way they did not keep well. He got two of his assistants to make experiments with the pills. It was a question whether the word "beat," as Mr. Maben read it, should not mean "heat" together so as to effect a change. His assistant reported that when they were beat together the pills were not so satisfactory as when heated together to ensure a complete change in the mass before being rolled into pills. With that change Mr. Maben's process would, he thought, work very well, and the addition of glycerine and water, especially glycerine, would enable them to coat the pills. Glycerine and heating in place of beating in the last stages of the mass would ensure complete decomposition, and would retain the mass in a plastic state. The Codex form was the one he had lately adopted. They had to make the pills to keep in stock ready to send off when suddenly ordered, and they were not a pill they could always make and send away at once. He admitted that if the object was to give ferrous carbonate and dispense it quickly, Mr. Maben's formula might be the best; but where the pills had to be kept the Codex formulary should have the preference.

Mr. CROSS asked if Mr. Maben had tried to make the pills with granular sulphate of iron.

Dr. SYMES said his experience rather bore out Mr. Martindale's remark—viz. that saccharated carbonate of iron pills carefully prepared kept remarkably well, much better than Blaud's pills would keep. He could not help thinking that if they could persuade their medical men to prescribe carbonate of iron pills instead of Blaud's pills, they would be perfectly well satisfied, and get more carbonate of iron. He was very much surprised to find how little alteration there was in a sample of carbonate of iron which he was going to throw away after keeping it for nearly twelve months in a paper parcel. The same was the case with another sample kept six months in a bottle. He was also rather inclined to favour heat in the preparation of Blaud's pills. Gentle heat should be used, a little sugar added, and the manipulation rapidly conducted. There was a great deal in rapid manipulation, the object being to bring about decomposition in the quickest possible manner. He thought the French method recommended that the pills should be silvered. That was the worst thing that could be done with an iron pill.

Mr. NAYLOR said his experience was that the pills could be made by simply beating. He had no experience with heating; and he had found in comparative experiments that pil. ferri carb. contained less ferrous carbonate than Blaud's pills.

Mr. MABEN, in reply, said they had to make Blaud's pills, and the question was how they were to make them. It had nothing to do with the pil. ferri carb. He had no doubt that heating would cause combination to take place better than beating, but he thought it would be attended with the loss of the ferrous salt. That was his principal objection to the French process, but there was in addition the length of time it took. He was also of opinion that the pills made by his process would keep quite as long as the pills made by the Codex process. He had tried granulated sulphate of iron, and it did very well, but not any better than the crystals. In reply to Mr. Martindale, he explained that he used only the theoretical quantity of potassium carbonate—an excess was bad.

Mr. NAYLOR then read the following

NOTE ON TWO SPECIES OF VESICATING BEETLES FROM SOUTH AFRICA.

BY J. O. BRAITHWAITE.

[*Abstract.*]

THE author gave a description of two species of Myla bris—viz., *M. bifasciata* and *M. lunata*—recently sent to Messrs. Hale & Sons, of Mincing Lane, mixed together as a trial sample of blistering-flies.

Mylabris bifasciata is described as being of from 20 to 25 m.m. in length, black in colour, having the elytra traversed by two sinuous ochraceous bands, that at the apex having a very distinct rufescent margin. *M. lunata* is smaller, varying from 14 to 18 m.m. in length; it is black, having two lemon-yellow sinuous bands across the elytra, and a very conspicuous reniform or semilunar mark at the base of each wing-case. It is not present to any great extent, comprising only 7 per cent. of the whole consignment.

Having separated the two species the author found that *Mylabris bifasciata* is a very active vesicant, giving rise to abundant and rapid vesication, when minute quantities of extracts obtained by acetic ether or petroleum ether are applied to the skin. A "liquor epispasticus," prepared by the B. P. process, was far more active than that made from *Cantharis vesicatoria*. The blistering principle was isolated and found to be identical with cantharidin. It was estimated by a modification of Mortreux's process, which yielded no less than 1·09 per cent. of cantharidin, while the control experiment with *Cantharis vesicatoria* only gave 0·42 per cent.

Mylabris lunata was found to be less active than its congener, being about equal to cantharides in blistering-power. The small quantity available prevented a satisfactory assay, but sufficient evidence was obtained to warrant the conclusion that it contains much less cantharidin than *Mylabris bifasciata*.

It was also found that in extracting the cantharidin *Mylabris* gives up very much less extractive than cantharis—viz., 10 and 18 per cent. respectively, so that it is much easier to extract the principle from the former. The author concludes that, considering its richness in cantharidin, *Mylabris bifasciata* would be an economic source of that body, since it is easily obtainable at the Cape, where it is common.

The PRESIDENT said he remembered that this particular genus of vesicating flies was brought under the notice of the Conference some twenty years ago, and received but brief attention; from that day to this, so far as he knew, it had not been examined. Mr. Braithwaite was the first to give a practical scientific attention to the active principle of this particular beetle, and the Conference would give him its thanks for the paper.

Mr. WILLIAMS asked whether the beetle could be obtained in large quantities. The quantity of canthiridin named was rather tempting to a manufacturer. He heard a remark about colesterin as if it were a fatty acid. It was not so, and he supposed the author of the paper had been careful to separate the colesterin and fatty acid.

Mr. MOSS thought the paper was a very practical one. He understood that the two flies occurred in very considerable quantity at the Cape, and might be collected economically. As they contained about twice as much cantharidin as the Chinese flies, he thought there would be a market for them here. At all events they would prefer to have flies from their own colonies rather than from China. (Hear, hear.)

A member stated that the paper was full of comfort to the chemist. If they could have a blistering fluid which could be economically prepared, instead of the preparation now used, which was as uncertain as anything in the Pharmacopœia, it would be extremely satisfactory.

Mr. SCOTT said that it would be desirable to know from the author of the paper whether the flies were plentiful. During the last dozen years he had had several varieties of *mylabris* sent to him, but had not been successful in obtaining a blister either on himself or on any assistant, nor had he, except in one instance, found the smallest percentage of cantharidin, or it was too small to be perceptible. The flies which he had examined were not the same species as these.

Mr. HOLMES said that the Chinese cantharides, which were very uncertain, consisted, as a rule, of two species, one less active than the other. Which of the two was the more active he did not know. The difficulty in importing this Cape insect would be to separate the *M. bifasciata* from the *M. lunata*. The former was the active, and the latter the weak one. Unless they could persuade the natives to send them the proper article, it would always be liable to uncertainty.

Mr. NAYLOR, in reply, said the statements in the paper were extremely definite. Mr. Braithwaite stated that the insects were plentiful at the Cape, and that they yielded twice as much cantharidin as the ordinary cantharides.

The next paper read was

A NOTE ON THE CULTIVATION OF ENGLISH RHUBARB.

BY W. ELBORNE, F.L.S.

[*Abstract.*]

IN this paper the author drew attention to the similarity between the root of the *Rheum officinale* cultivated at Bodicote and the dark-coloured variety of the East Indian drug. Specimens of both of these were shown, and it was suggested that the latter has a similar origin to the English variety. The "high cultivated" English rhubarb is now no longer produced.

There was no discussion on the paper, and Mr. Elborne was accorded a vote of thanks.

Mr. TINGLE then read the following paper:—

OIL OF EVODIA, A NEW DEODORANT OF IODOFORM.

BY H. HELBING.

[*Abstract.*]

THE author stated that a good deodorant of iodoform is still wanted. Coumarin, oil of peppermint, and roasted coffee are fairly satisfactory, but there are objections to them, and they have not proved sufficiently powerful. He had occasion to examine the seeds of *Evodia fraxinifolia*, and obtained an essential oil from them amounting to about 4 per cent. of the weight of the seeds. This oil he believed to be well adapted for the purpose of covering the odour of iodoform. The botanical characters of the plant were described, which will be found in Hooker and Bentham's *Genera Plantarum*. The oil is used in the proportion of 2 drops to 1 oz. of iodoform, and the author states that "in its crystalline form, or when dissolved in collodion, the odour of iodoform is rendered perfectly unrecognisable by the oil of evodia."

The PRESIDENT observed that if Mr. Helbing had discovered a true disguise for this intensely pungent chemical he should say he had scored a distinct advantage. He was not sure that he had accomplished it, however. (Laughter.)

Mr. MARTIN asked what was the source of evodia—was it a tree or a shrub?

Mr. CHRISTY (London) doubted whether evodia could be got in any quantity till they could grow it in their own colonies. He had been fortunate in getting a few seeds, and had grown some plants from them, which he had distributed in the colonies, and hoped to have good results. The berries that came to the market now were very small. They were grown on small shrubs, the trees being cut down by the natives of India, and that was one reason why they could not get a constant supply.

Mr. SCOTT said he rose to throw cold water on the matter. He had been making some experiments with oil of evodia, but not with the same purpose as the author of the paper, which he did not know until he saw the title of the paper that was to be read. By the test of his nose and the sample before them he did not think there was much in the proposal of the paper. He might say there were several essential oils which would, to some extent, mask the odour of iodoform. The well-known Indian oil of spikenard would do so to the same extent as, and far more effectually than, this oil they had been sniffing at.

Mr. HOLMES asked Mr. Scott what he meant by oil of spikenard, but a satisfactory reply was not given.

Dr. SYMES said that as this oil did not effect the object they need not trouble themselves with the mode of getting it. In his experience the oil of Tonquin bean covered the odour of iodoform as well as anything he knew. It was merely a question of which odour was most persistent—the iodoform or the masking odour. They had in this case, as in others, the Old Adam still. (Laughter.)

Mr. HAMPSON wished to know whether the evodia smelled stronger than the iodoform, or in what way the deodorising was effected. Was it a case of a big smell killing a little one ?

Mr. HELBING, in reply, said the evodia oil was as good as any other. Iodoform mixed with peppermint or coumarin gave the smell of peppermint or coumarin, but oil of evodia and iodoform when mixed gave neither the one nor the other. The odour was quite distinct.

Dr. THRESH then read the next paper, on

CRYPTOPINE AND ITS SALTS.

BY DR. E. KAUDER.

[*Abstract*]

THIS paper recorded the results of experiments made in the laboratories of Messrs. J. A. Wink & Co. (Limited), on the properties of cryptopine and its salts. The author first described the method for manufacturing cryptopine. It is contained as a salt (along with resinous and extractive matters) in the mother liquor from which codeine, narceine, thebaine, and papaverine have been separated. The liquor is treated with soda, the precipitate washed with warm water and redissolved by hydrochloric acid. The solution gelatinises on cooling, but forms crystals in from two to three days, crystallisation being accelerated by excess of acid. After describing the method for purifying the salt, its characters were given. One distinctive character is that with strong sulphuric acid it gives a violet colour changing to deep blue. The test is intensified if the acid contain a little iron. It was proved, contrary to the statement of the Messrs. Smith, that this coloration was not due to the presence of thebaine. As a correlative study several facts regarding thebinine muriate (a decomposition product of thebaine) were given. These had reference more especially to the reaction which it affords with sulphuric acid (a dark violet blue changing to a magnificent rose). It is readily distinguishable from cryptopine, however, by the fact that a drop of the solution placed on filtering-paper becomes of an intense rose colour. It was attempted to convert any thebaine which might exist in the cryptopine salt into thebinine; but there was none, and this conclusion was corroborated by another method. The pure alkaloid is slightly soluble in boiling spirit and benzol, and melts at 213° C. (Smiths give 204·5° C., and Hesse 217° C.). The author exhibited several salts of the alkaloid, such as the picrate, dichromate, meconate, and muriate, as well as the pure alkaloid. The meconate is remarkable, in so far as its solubility is 1 in 1,300 parts of water at 14·5° C. Yet this saturated solution, if made hot, solidifies into a crystalline or gelatinous mass on cooling. An analysis of the alkaloid was made, the meconate of cryptopine and a silver salt being used for the purpose, the result going to show that the formula $C_{21}H_{23}NO_5$, as given by Hesse, is correct. 5,000 lbs. of opium yield 3 lbs. of crude muriate of cryptopine, which, he stated, was a considerably larger yield than the quantity stated by Messrs. T. & H. Smith.

Mr. DOTT remarked that it was somewhat difficult to follow the details of the paper, but he had little hesitation in saying that colour-reactions could not always be regarded as satisfactory, for what one man considered violet another would say was blue. After criticising the proceedings to get rid of thebaine [the remarks were indistinctly heard at the reporters' table] Mr. DOTT said that cryptopine existed in such small quantity in opium that it was never likely to come into practical use. At the same time, he remarked, it was quite well known that the alkaloid existed in much larger quantity than had been stated by the Messrs. Smith.

Mr. H. B. BRADY: It is worth noting, Mr. President, that the discovery of this alkaloid was announced at the first meeting of this Conference at Bath.

This concluded the day's proceedings.

CONCLUDING PROCEEDINGS.

The President said there were a few matters of important business to which he would invite their attention in the hope that they would remain until they were completed. The first matter he had to mention was the reappointment of the Formulary Committee. The committee had recommended in the annual report that that committee be reappointed. The Formulary Committee did not apply for any fresh grant at present, the grant of 25*l.* made last year not having yet been expended. He wished while recognising the services of that committee—which he held to be a very valuable one—to especially mention the names of two of the workers upon it. If he did so he hoped the other members of the committee would not in any sense think him invidions in the selection. In fact, he had their consent to this course. He would first of all emphatically mention the services they had received from the chairman, Mr. Martindale. (Loud cheers.) That Mr. Martindale should have been willing *con amore* to have entered upon a work of this kind reflected the highest credit on his unselfishness. There had been an enormous amount of work done by a gentleman who was as modest as he was capable in all his public work—viz, his friend Mr. Naylor. (Loud cheers) True work, when it was set off and adorned by the modesty which so frequently characterised great workers made that work all the more acceptable to those to whom it was accorded. He, therefore, desired to move the reappointment of this Formulary Committee, and would ask Mr. Williams to second the proposal.

Mr. WILLIAMS said he should be most happy to second the motion. His own opinion was that the committee deserved their thanks, and he believed they would not only continue to deserve them, but more hereafter. Of course the first year's work was more difficult than it would be hereafter, because they had to organise their system and plan of operations. He knew the enormous amount of labour that had been gone through. He had heard of it from some of the members of the committee, and he could only say that they ought to be very grateful to the gentlemen who had undertaken this responsible and useful and valuable work—(hear, hear)—and for the energetic mode in which they were carrying it on. Of course it was a misfortune that they could not meet together more frequently. He understood that the amount of correspondence was a great drawback to the easy working of this committee, but the impossibility of drawing together gentlemen from all parts of the country constantly to discuss personally the questions that came before them was, he supposed, insuperable.

The resolution was carried unanimously.

Mr. MARTINDALE thanked the members generally for the kind expressions that had been used in favour of the work of the committee. So far they felt they had not done much. They had had a little experience that might give them hope for the future, and he thought the committee would be able to carry on their work, and in another year have a greater number of formulæ than this year.

The PRESIDENT said the next matter was an exceedingly agreeable one. It was his pleasant duty to ask the Manchester Pharmaceutical Association to accept a contribution of books to their library from the Bell and Hills Library Fund. (Cheers.) These books he hoped and believed would be a useful addition to their library. They had in Manchester a Pharmaceutical Association of many years' existence, a thing they could not say of all the Pharmaceutical Associations that had been formed throughout the kingdom. Of course in a large city like Manchester they would naturally expect that there should be a continuity of existence and of growth and development of power. He hoped the young pharmacists of that important city would find this contribution of books that came from the source he had indicated of service to them; and he would ask Mr. Wilkinson as Vice-President of the Association to reply on its behalf.

Mr. WILKINSON said he was very glad indeed to thank the donor of the books for the valuable gift which had been handed to them.

The PRESIDENT said the rest of the business would not occupy a moment. It was merely to put to them this—that they should follow their usual precedent by agreeing to hold their next year's meeting at the same place at which the British Association met—viz. in the city of Bath.

The motion was agreed to by acclamation.

Most of the members who had not already departed proceeded to the Exhibition, to which conveyances were provided.

Reports of the papers and discussions taken on Wednesday are reserved till next week. Meanwhile, we give a *résumé* of the whole in our Editorial article.

Dr. THRESH said the list of officers which the Executive Committee recommended to the Conference for election for next year had been written upon the blackboard, and he would read them out.

EXECUTIVE COMMITTEE FOR 1887–8.

PRESIDENT.
F. B. BENGER.

VICE-PRESIDENTS.
M. CARTEIGHE.
C. SYMES.
S. PLOWMAN.
W. MARTINDALE.

TREASURER.
C. UMNEY.

HONORARY GENERAL SECRETARIES.
J. C. THRESH.
W. A. H. NAYLOR.

COMMITTEE.
W. ALLEN, Dublin.
M. CONROY, Liverpool.
R. H. DAVIES, London.
D. B. DOTT, Edinburgh.
A. W. GERRARD, London.
T. MABEN, Hawick.
N. H. MARTIN, Newcastle.
F. RANSOM, Hitchin.
G. S. WOOLLEY, Manchester.

AUDITORS.
W. WILKINSON, Manchester.
E. J. APPLEBY, Bath.

Last year, instead of distributing voting-papers and collecting them, they adopted the American method, by which someone handed in the names of the officers on a slip of paper, and the chairman then put the nomination to the meeting. He suggested that the same course should again be adopted.

Mr. REYNOLDS said the rules required that the election should be by ballot, and he suggested that the proper course would be for someone to hand in a list of the officers, and that no vote be taken upon it all. This course was adopted, and the election duly made.

Mr. BENGER thanked the Conference for the great honour which they had done him in electing him President. However much he doubted the wisdom of their choice—(laughter)—he could not fail to appreciate the kindness of their feelings towards him, as shown by the manner in which his name had been received. It was only in the hope that they would continue that kindness that he was willing to undertake such duties. He promised that he would do his best in the position to which they had chosen him, and he hoped the Conference would not seriously suffer for what he could not but regard as an error of judgment on their part. (Laughter and cheers.)

Mr. SCHACHT moved that the cordial thanks of the non-resident members of the Conference be given to the local committee, and especially to Messrs. Woolley, Benger, Hart, Kemp, and Gibbons for the very successful way in which the arrangements connected with the Manchester visit had been made and carried out. He was sure they would agree with him that the continuance of the existence of the Conference depended very largely upon the efforts made on these occasions by the local committee. An immense amount of labour fell upon these gentlemen, and the Conference was greatly indebted year by year to the efforts they made. On the present occasion the visitors and strangers had had ample proof of the care with which everything had been arranged, and of the kindness and cordiality with which their comfort had been attended to. (Cheers.)

Mr. MARTINDALE seconded the resolution. He said the visit to that large city, sometimes called "Cottonopolis," was a favour he had looked forward to with the greatest pleasure, and he was sure he had enjoyed especially meeting old friends who had taken part in the proceedings and arranged things so well for them. One of these was Mr. Wilkinson, whose name should be added to those specially mentioned in the resolution. (Hear, hear.) He was sure they had all enjoyed the visit to Manchester, and looked forward to further enjoyment on the morrow if the weather was favourable.

The PRESIDENT added Mr. Wilkinson's name to the resolution, and said there were other workers to whom they were indebted. He wished to support the resolution with all his heart. He had received so many marks of attention that he could not adequately express his indebtedness to his friends at Manchester. He asked them to carry the resolution by acclamation. (Cheers.)

The resolution was carried in the manner suggested.

Mr. WOOLLEY, in reply, said he was sure the committee were deeply gratified by the cordial way in which the vote had been received. Mr. Martindale was pleased to say how much the visit was looked forward to by him. He could only assure them that the chemists not only of Manchester, but of the district, had also been looking forward to this visit with great interest. He had been very much gratified at the way in which the prospect of entertaining the Conference was taken up and looked forward to and the arrangements discussed by the pharmacists of the entire district. (Hear, hear.) He trusted that the arrangements they had made had tended to promote their pleasure and comfort whilst they were there. (Cheers.) Of course in entertaining a large meeting such as that had been there must necessarily be some short-comings. For example there was the weather, which Mr. Martindale had alluded to. (Cheers.) Well, they knew Manchester had an evil reputation in that direction, but before the rain came they were within a very few days of a water-famine. Therefore they could not altogether regret the downpour they had at present. They had been in communication with the weather-office at Matlock, and had every reason to believe that there would be a fine day on the morrow for their excursion. (Cheers.)

Mr. BENGER also thanked them for the expression of their approval of what had been done by the members of the local committee. It was through the mere incidental circumstances of his having been secretary that he was placed upon it. He was sure there was not a man on the committee who would not have worked with zeal and earnestness for the success of the Conference. They were amply repaid for any trouble they had taken by the pleasure of seeing so large a meeting. (Cheers.)

Mr. WILKINSON also returned thanks.

Mr. REYNOLDS moved a vote of thanks to the Principal and Council of Owens College for placing at their service so admirable a building, and to Professors Leech, Marshall, and Young for their valuable assistance. (Cheers.) He attached great importance to the growth over England of these great scientific colleges, of which Owens College stood at the head. Pharmacy was there recognised, and it was fitting that their meeting should have been held in that institution. (Cheers.)

Mr. DOTT seconded the motion.

The PRESIDENT, in putting it to the meeting, said they were so much indebted to the authorities of the college that the vote would be no mere formal one. (Cheers.)

The resolution was carried unanimously.

Mr. YOUNG (Edinburgh) proposed a vote of thanks to the Executive Committee of the Manchester Exhibition for including the members of the Conference in the invitation to the conversazione on Thursday evening. He said that as they had been invited to the conversazione it became them to thank the Executive Committee for their kindness. He had been at the exhibition for a few hours on the previous evening, and could testify that there was food both for bodily and mental good, sufficient to occupy anyone a week. (Laughter and cheers.) He had never spent so enjoyable an afternoon anywhere.

Dr. SYMES seconded the motion. He thought they should all feel heartily grateful to the committee for the spirit in which they had endeavoured to make pleasant their stay. (Cheers.)

The resolution was carried.

THANKS TO THE PRESIDENT.

Mr. CONROY, in a few words, moved the thanks of the Conference to Mr. Atkins for his conduct in the chair. The motion was seconded by Mr. BALKWILL (Plymouth), and was put to the meeting by Mr. G. F. Schacht (as a past President). The response by the members was loud and spontaneous, and Mr. ATKINS, in rising to reply, was visibly affected. He said that when it was first intimated to him that he was likely to be appointed President, he hesitated much before he accepted; but now that the work was over, he felt that to meet in hospitable Manchester—to meet so large a body of pharmacists as that which he had had the honour to preside over, was the one signal honour of his life. They had met in exceptional circumstances, and the meeting had been in every respect a great success. (Applause.) But he felt that to part now without remembering the organisers, the secretaries, could not be thought of. (Hear, hear.) It was not a question of how much they knew they owed them, but hcw much they did not know that they owed them. He was sure that none were so deserving of thanks and praise for their services. (Great applause.)

The Papers.

Before the members separated, Mr. Burford (Leicester) rose to make some remarks regarding advance abstracts of the papers which were read at the Conference meetings. He felt that these would be a great assistance, and would held the discussions.

Dr. Thresh said that the proposal was one which should be brought before the Conference Committee by letter, and it would be considered.

This was all the business, and the meeting adjourned.

The Smoking-concert.

Smoke as dense as a November London fog pervaded the Concert Hall of the Grand Hotel from nine o'clock till far past midnight on Wednesday evening. Mr. Harry Kemp, an excellent chairman, was surrounded by a company which thronged the room, and the time passed merrily with songs and recitations and conversation. There could be no doubt of the popularity of this form of entertainment, nor was there any difference of opinion in regard to the excellence of the arrangements made by a section of the local committee, Mr. Kemp especially.

The following signed the attendance book :—

Aberdare.—W. J. Thomas. Aberdeen.—W. Belfield, G. E. Broomhead, W. Giles, J. Johnston. Ashton-under-Lyne.—W. Bostock.

Barnet.—R. F. Young. Barnsley.—T. Lister. Barnstaple.—Sophie Symons. Birmingham.—F. H. Alcock; W. F. Haydon, G. E. Perry, C. Thompson. Bolton.—W. B. Mason. Bombay.—A. Phillips, B. Phillips. Bournemouth.—F. Spinney. Brighton.—C. F. Kernot, M. Leigh, W. D. Savage. Bury.—L. Siebold. Buxton.—J. C. Thresh.

Cambridge.—H. J. Church, A. Deck. Carlisle.—A. Thompson. Cheltenham.—W. Barron. Chester.—G. Baxter, W. Hodges, T. Tupham. Clifton.—W. Berry, G. F. Schacht. Coleraine.—W. J. Baxter. Cork.—T. R. Lester. Coventry.—J. Hinds, H. J. Jones, W. F. Wyley. Crewe.—W. H. Harrop.

Dalkley, (Ireland), G. D. Begg. Denton.—W. Arrandale. Droitwich.—S. Harry. Dublin.—Harriette E. Browne, J. E. Brunker, R. Simpson, C. R. C. Tichborne, Mary A. Wells, W. F. Wells, jun.

Edinburgh.—D. B. Dott, S. Purves, T. Symington, J. R. Young.

Farnworth.—J. W. Wilkinson.

Glasgow.—J. Nicoll. Gloucester.—H. Jenkins, W. Stafford, J. Ward.

Halifax.—W. Alexander. Hastings.—H. Winter· Hawick.—T. Maben. Heaton Norris.—Miss Williams Hindley.—A. M. Hart. Hold.—G. Cheetham. Huddersfield.—J. H. Bell. Hull.—C. B. Bell, C. L. Metcalfe. Hurstpierpoint.—Flora Mitten, R. E Mitten. Hyde.—M. Billinge.

Ilkley.—G. W. Worfolk.

Leamington.—W. H. Pullen. Leeds.—F. W. Branson' T. Fairley, P. Jefferson, R. Reynolds, G. Ward, Leicester·—E. H. Butler, S. T. Burford, J. W. Clark, J. Meadows Leighton.—R. Richmond. Leven.—A. Gibson. Liverpool.—A. C. Abraham, M. Conroy, A. Fraser, A. Greenall, T. W. Lee, J. Newman, A. H. Samuel, C. Symes. Llanelly.—Gwilym Evans. London.—J. H. Baldock, G. F. Bindloss, F. C. J. Bird, H. B. Brady, S. M. Burroughs, T. Christy, C. G. Clarke, H. Collier, E. Crawshaw, R. H. Davies, W. B. Dyson, T. S. Dymond, E. G. Eastes, Mrs. Fowler, A. W. Gerrard, W. Glazier, E. Gurnnell, R. Hampson, H. Helbing, E. M. Holmes, W. H. Ince, W. Lascelles-Scott, H. Long, P. MacEwan, P. C. Maitland, W. Martindale, W. Mason, J. Moss, W. P. Parry, F. Passmore, R. D. Pedley, F.R.C.S., C. Pretty, R. Robinson, W. P. Robinson, W. P. Roberts, A. Sangster, J. E. Saul, F. J. Smith. W. H. Symons, G. S. Taylor, J. G. Tingle, L. Tompsett, T. D. Watson, W. White, Mrs. Williams, T. H. Williams, J. Williams, A. C. Wootton, T. R. Wright, C. R. A. Wright. Louth.—H. D. Simpson. Lynn.—J. H. Evans.

Manchester.—F. B. Benger, C. G. Butcher, J. Blyton T. Burn, A. Balmforth, W. Bowden, F. R. Cooper, W. Cornish F. W. Deacon, R. J. Dickson, W. Elborne, R. Le Neve Foster' W. Gibbons, J. Hart, R. O. Huddleston, G. H. Hardy, E. G' Hughes, E. S. Johnstone, G. Jackson, C. A. Johnston, H. Kemp' J. C. Kidd, W. Kirkby, D. J. Leech, M.D, W. Lowe, W Marsden, D. Mayor, W. Morris, C. T. Needham, T. Owles, A. J. Pidd, J. Pirin, G. W. Pratt, S. Paine, W. M. J. Russell, H. R. Roberts, B. Robinson, J. L. Smith, J. T. Slugg, A. K. Stamp, C. Swinn, J. L. Slack, S. Scarfe, J. Tyson, W. S. Turner, — Tatham, M.D., G. S. Woolley, W. Wyatt, J. Wild, G. Wilkinson, G. F. Wild, H. Woolley, J. Wheeldon, G. H. Wishmark. Mansfield.—B. Adams.

Newcastle-on-Tyne.—N. H. Martin, H. A. Spargo. Newton Heath,—W. Carr. Northampton.—W. D. Hayger. Nottingham.—E. Patchitt.

Oldham.—W. Geddes.

Peterborough.—S. Lipscomb, Miss Lipscomb. Plymouth.—A. P. Balkwill. Preston.—M. Hargreaves.

Radcliffe.—J. T. Smith. Ramsbottom.—T. Hulley. Rochdale.—J. W. Bamford, H. Wilson. Rothesay.—E. Duncan.

Salisbury.—S. R. Atkins. Saltaire—G. H. Bayley, Mrs. Bayley. Scarborough.—J. Whitfield. Sheffield.—A. H. Allen, A. R. Fox, J. M. Furness, G. T. W. Newsholme. Shepton Mallett.—G. J. Cottrell. Shrewsbury.—W. Cross. Smethwick.—R. D. Gibbs. Southampton.—J. Chipperfield. Southport.—W. Ashton. W. V. Radley F. Romer. Stalybridge.—A. Simpson. St. Leonards—F. Rossiter. Stockport.—T. Hart. Swansea.—J. T. Davies, N. M Grose, W. Morgan.

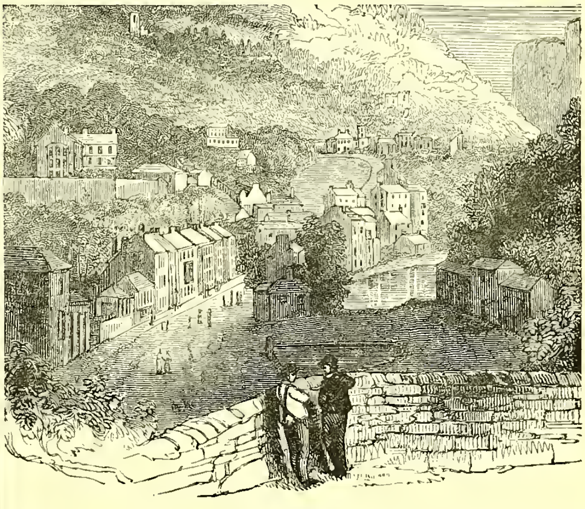
Tarporley.—W. Aston. Todmorden.—B. Lord, C. Lord.

Wantage.—C. G. Candy. Warrington.—J. R. Young. Wigan.—T. Johnson. Withngton.—T. Terry.

York.—J. Clark.

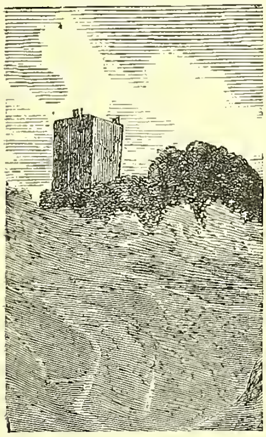
THE EXCURSION.

The train from Manchester to Matlock Bath was timed to leave the Central Station at 9.10 on Wednesday morning, and punctually at that hour it left with over 200 passengers. Unfortunately the morning was a dull one, nor did it improve on the journey, and when the train arrived at Matlock Bath, shortly before eleven, it became too evident that the Matlock weather clerk had not been amenable to the process of squaring which Mr. Benger had attempted on the previous day. No rain had fallen on the journey, however, and though sunshine was lacking, the party expressed their satisfaction with the picturesque character of the latter part of it—the Derbyshire Peak district. The local committee could not have done better than to select the village of Matlock



MATLOCK.

Bath as the centre for the day's pleasure. There are certain historical events associated with it; its mineral wealth is a story of the Roman period, and its numerous natural caves are weird enough to recall the primitive life of the Early Britons, and sufficiently interesting to pass an hour or two in on a rainy day. But the face of nature was of greater interest than the bowels of the earth, and he must have been a soulless man who did not appreciate the wild character of the scenery. Peak Castle we passed on the journey, and we give a glimpse of it as we saw it from the saloon carriage. But the High Tor is what the Matlock Bath people claim for their "very own," and this gigantic rock had to be surmounted by the party. It is not so high as the Matterhorn, otherwise the President of the Pharmaceutical Society might have been at the Conference, but it was a good stiff pull to the top, and it looked quite 600 feet from there to the smooth but muddy Derwent, which flowed past its base. A glimpse of sunshine would have been welcome here; rain came instead, but did not spoil the natural grandeur of the view, which reminded one somewhat of the scenery of Saxony.


PEAK CASTLE.

The Tor was not sufficiently attractive, however, to keep the party on the top of it for two hours, and most of the company wandered to other parts, such as the Heights of Abraham, from which as good a view is got as from the High Tor, and the numerous caverns and petrifying wells received their quota of visitors. A heavy rain fell between twelve and one, but every seat in the marquee at the Royal Hotel was filled by a few minutes past one, when

LUNCHEON WAS SERVED.

Of all the successes of the Manchester Conference, the palm must be given to this luncheon. An excellent collation was provided, and served exceedingly well; so much so that we heard the committee profusely complimented on their crowning achievement. But before the company rose from the table, Mr. G. S. Woolley, the Chairman, toasted "The Queen." That responded to, he gave "The Health of the B. P. C." Not many words, he said, were necessary in toasting this body in an assembly of those who had benefited from the organisation. In each town in England in which they met they made new acquaintances and resumed old associations. Although the purpose of the Conference was to promote pharmaceutical science, he felt that pleasures such as they were at that time enjoying were not the least part of the objects of the Conference. (Applause.) With the toast he coupled the name of the President, Mr. Atkins.

Mr. Atkins, in responding, said that he had imagined until that moment that he had abdicated the position of President to his distinguished successor, Mr. Benger. (Cheers.) "The king dies, the king lives," was their motto. He was glad to know from their cheers that they appreciated the greatness of the rising sun. He quite agreed with the Chairman that although the promotion of science was the main object of the Conference, the secondary, but by no means the least, object, was the formation and binding of fraternal regard. Here they had the pleasure of the company of ladies; they formed friendships and connections. (Laughter.) Would they believe it, during the twenty-four years that he had attended the Conference meetings, no less than five of his friends had found wives at the Conference (laughter), and as far as he could judge the process was going on now. (Renewed laughter)

Mr. J. R. Young (Edinburgh), in proposing "The Local Committee," said that all future committees would do well to take the Manchester one as their example. With the toast he coupled the name of his "elevated friend," Mr. Benger, who, in the course of his reply, said that in one particular the committee had failed—they had not succeeded in squaring the clerk of the weather. (Laughter.) But when they thought of the numerous and urgent prayers for rain which had been offered up recently in that district they would know what the committee had to contend against, and that there was little chance for them. (Great laughter.) He would defer further observations until next year at Bath, and until then they would consider the meeting not dissolved, but adjourned. (Applause.)

With this the toasts, as intimated by the Chairman, ended; but when several of the company rose to leave, there were loud calls of "Chairman." No one, however, seemed to have courage to propose his health, until some lucky individual cried out "Schacht," and Mr. Schacht took up the cue as neatly as possible, and his few words in Mr. Woolley's praise, spoken warmly and earnestly, were exceedingly appropriate. The toast was drunk with enthusiasm, and Mr. Woolley briefly replied.

The members then took their seats in carriages for a drive, which occupied fully two hours, but of which the pleasure was considerably marred by a heavy rain-shower, which began to fall at 2 30 and continued until the party returned. In the course of the drive the party passed Lea Hurst, the Derbyshire home of Miss Florence Nightingale, and the ruins of Wingfield Manor. This edifice, now in ruins, is believed to have been built by Ralph, Lord Cromwell, in the time of Henry VI., and during the Civil Wars was a place of great importance. Mary Queen of Scots was imprisoned in the manor. Amongst the other notable buildings pointed out was Stancliff Hall, the residence of Sir Joseph Whitworth—indeed, there were few of the many interesting bits which were not seen, although at a disadvantage. Arrived at the hotel, a veritable "tea-fight" was the first part of the proceedings. The party returned to Manchester by train at six o'clock.

SOUTH WINGFIELD.

BEER has been recommended as a good vehicle for the administration of castor oil. A dose is mixed with half a glass of beer until the mixture has been converted into foam, and then swallowed.

EMULSIONS WITHOUT A MORTAR.—E. Kraft has been writing on this subject in the *Pharm. Zeit*, and the point of his remarks is as follows:—If oil of almonds, 10 parts, is to be made into 100 parts of emulsion, first pour 7·5 gm. of water into the phial; then the 10 gm. of oil of almonds, and next 5 gm. of best gum arabic in very fine powder, and shake energetically. After a while add gradually the remainder of the water. The resulting emulsion will be faultless.

Trade Report.

Note to Retail Buyers:—It should be remembered that the quotations in this section are invariably the lowest net cash prices actually paid for large quantities in bulk. In many cases allowances have to be added before ordinary prices can be ascertained. Frequently goods must be picked and sorted to suit the demands of the retail trade, causing much labour and the accumulation of rejections, not all of which are suitable, even for manufacturing purposes.

It should also be recollected that for many articles the range of quality is very wide.

42 CANNON STREET, E.C., September 1.

ALTHOUGH the volume of business transacted this week has not been a very large one, it has been satisfactory as regards prices, for several important articles have advanced in value since last week. Among the principal of these is quicksilver, which is now dearer than it has been for the last seven years. All mercurials are 2*d*. per lb. dearer than last week. Citric acid is also slightly dearer, and if holders were more disposed to sell there would no doubt be a good volume of business passing. On the other hand, there has been a fall in ammonia sulphate, and copper sulphate is also easier.

Gum arabic is generally selling at higher rates, while chamomiles have more than recovered last week's fall. Insect flowers, soy, Dutch caraways, oil of lemon, and Turkish rapeseed are all firmer.

At the bark sales on Tuesday very little spirit was shown, and the tendency was for a decline. Quinine remains exceedingly flat. Opium of the old crop is selling lower at Smyrna, where holders are becoming pressed for money. In England there is very little doing indeed. No change has occurred in morphia. Iodine and bromine, with their respective preparations, are also unchanged. It is now at last authoritatively stated that saccharine is obtainable from the German works in commercial quantities. Jamaica ginger and the better grades of cinnamon are dearer, but cloves, chillies, good mace, nutmegs, and pimento are all tending downward.

The feature of the drug market this week has been the rise in shellac, which is advancing rapidly from its miserable condition; but it is hard to find an adequate explanation for the advance. Isinglass has been sold dearer for most varieties at the auction this week. In fixed oils cottonseed, olive, palm, and rape oil exhibit more firmness.

It is said that the English hop crop will be very small this year, and that prices will probably advance considerably, but unless this advance is much greater than can be anticipated it is very doubtful whether the bitter drugs, such as calumba, chiretta, &c., will be affected by it.

ACID (CITRIC).—To-day there are buyers at 1*s*. 8½*d*., but no sellers, which circumstance acts as a check upon business. For lemon juice 25*l*. has been paid; owners now want as much as 26*l*. 10*s*.

ACID (OXALIC) remains almost lifeless at 4*d*. per lb, while *Sal acetos* is held at 6*d*. per lb.

ACID (TARTARIC) remains firm at the unchanged rates of 1*s*. 7¾*d*. (nominally) for *English*, and 1*s*. 6¾*d*. for *Foreign*. Business in the article is of a limited character.

ALUM is still being sold at the established prices of 6*l*. for ground and 5*l*. 10*s*. per ton for loose lump.

AMMONIA COMPOUNDS are generally a shade easier. *Carbonate* is still held at 4*d*. per lb. less a considerable discount. The demand for *Sal ammoniac* has slackened somewhat, but prices are still quoted at 34*s*. for first and 32*s*. for second quality. *Sulphate* is offering at a decline, viz. London, 24 per cent. grey, 12*l*. 5*s*.; Beckton terms, 12*l*.; Hull, 12*l*. 3*s*. 9*d*. to 12*l*. 5*s*.

ANISE.—Prices still remain at 32*s*. to 35*s*. for *Italian*, and from 21*s*. to 24*s*. for *Russian* seed. Though the Russian crop is expected to be good, nothing can be said as to its quality as yet, and samples of new seed have not been shown. Some large speculative transactions have taken place and checked the expected drop of prices.

ARSENIC sells fairly well, and the price of 11*s*. 6*d*. per cwt. for white powder is well maintained.

BALSAMS.—More demand is reported to exist for *Tolu*. *Canadian* balsam is still worth from 1*s*. 5*d*. to 1*s*. 9*d*. per lb. The North American crop is said to have been very small this season.

BLEACHING POWDER becomes scarcer and scarcer on the spot; 8*l*. 15*s*. per ton is still the price.

BORAX.—The manufacturers, who require up to 30*l*. per ton according to brand, are still being undersold by second-hand holders, who offer their goods as low as 27*l*. 10*s*. per ton.

CAMPHOR.—There is very little doing in *Crude* camphor, the firmer feeling recently shown having made no further progress. Japan is held at 65*s*., China at 62*s*. 6*d*. per cwt.

CANARY SEED.—Prices for old seed are tending lower, and a good quantity of stock has been sold, but holders are very slow in making concessions, and meanwhile the new crop is falling due—in fact, the first shipment has already been landed. The quotations now are: for old *Turkish*, on the spot, 42*s*. to 44*s*. 6*d*.; *Morocco*, 49*s*. to 52*s*.; *Spanish*, 53*s*. to 60*s*. per 464 lbs., ex warehouse. New *Turkish* is offered according to quality at 40*s*. to 44*s*., ex quay for September-October shipment, but lower prices might have to be taken in order to effect sales.

CARAWAY SEED.—*Dutch* seed has been advanced in price by 1*s*., and is now quoted at 28*s*. to 29*s*. for fine quality. *Russian* seed for grinding purposes is offered at 23*s*. to 24*s*., to arrive. *English* held at 28*s*. to 29*s*.

CASSIA LIGNEA.—The price remains 24*s*. for good quill, while the feeling of the market continues to be one of depression. A vessel from Hong-kong, which arrived this week, had 11,150 boxes on board. In public sale 1,604 boxes were bought in at 25*s*. per cwt. nominally.

CHAMOMILES.—The forecast of the Belgian wholesale druggist who took a "bullish" view of the article in our issue of last week has been fully confirmed, for prices have within the last few days risen higher than before. To-day 6*l*. 15*s*. to 7*l*. 10*s*. was quoted on 'Change for the best *Belgian* flowers, but even at the latter price there is probably not much obtainable, the bulk of the Belgian flowers being held at the following prices:—New first pickings, 11*l*. 7*s*. 6*d*.; second ditto, 9*l*. 7*s*. 6*d*.; third ditto, 8*l*. 5*s*.; last year's white, 5*l*. 5*s*.; ditto brown, 70*s*. per cwt. Buyers will in all probability have to come round to these figures.

CHILLIES cheaper, and sold at 24*s*. 6*d*. to 27*s*. for brown to dull red *Zanzibar*.

CINCHONA.—The supply offered at the public sales on Tuesday consisted of 3,858 packages bark, about one-third of which was of South American origin. This variety, notwithstanding there appears to be more pressure to sell on the part of holders, received very little attention. Java cinchonas were in good supply, no less than 293 bales being included in the catalogues, the whole of which was sold. The bulk of the Ceylon barks offered was also disposed of, holders being satisfied to accept a reduction, and the average unit at the auctions cannot be quoted higher than 2⅛*d*. to 2¼*d*., a quotable drop even on the prices paid a fortnight ago.

CINNAMON.—Public auctions were held on Tuesday, when 1,107 bales were offered, less than half the quantity catalogued at the corresponding sales of 1886. Fine grades were 2*d*. dearer, but prices of other varieties, although higher than at the last public sales, showed a decline as compared to what has been paid privately lately, and ruled as follows:—*Firsts* super, 1*s*. 3*d*. to 1*s*. 4*d*.; ordinary to medium, 8½*d*. to 11*d*; *seconds*, fine to superior, 1*s*. to 1*s*. 5*d*.; ordinary to medium, 8½*d*. to 10½*d*.; *thirds*, good to fine, 10*d*. to 10½*d*.; ordinary to medium, 8*d*. to 9½*d*; *fourths*, fine, 10*d*.; ordinary to good, 7½*d*. to 9*d*.; *broken*, 7½*d*. to 9*d*.

CINNAMON CHIPS.—For quillings 7*d*. to 8*d*. has been paid, and for fair, 2⅞*d*. to 3*d*. per lb.

CLOVES.—A fair supply of *Zanzibar* cloves was offered for sale on Wednesday, but only 227, or about one-third of the quantity catalogued, was disposed of, at a decline of ⅛*d.* per lb., say, 10¾*d.* per lb. for good, 9¾*d.* to 9⅞*d.* per lb. for sea damaged. Fair bright *Penang* sold at 1*s.* 2½*d.* per lb.

Copper (Sulphate) has been reduced in price recently, and now offers at 13*l.* 15*s.* to 13*l.* 17*s.* 6*d.* for ordinary firsts.

Cream of Tartar.—The price remains very firm at 129*l.* 10*s.* to 130*l.* per ton, though from France and Spain small supplies are still coming in.

Cumin Seed remains scarce and dear at 47*s.* to 48*s.* for *Malta*, and 30*s.* to 40*s.* for other descriptions, all per cwt. ex warehouse.

Cutch remains firm; MM at 31*s.* 6*d.* to 32*s.*; RS at 30*s.* 6*d.* to 31*s.*; Eagle at 31*s.* 6*d.*; Maltese cross at 29*s.* 6*d.*; Star B at 32*s.* 6*d.* to 33*s.* per cwt.

Fenugreek Seed very firm at 7*s.* 6*d.* to 8*s.* 6*d.* per cwt. ex warehouse for *Morocco*.

Gambier.—Our stock here is small—sufficient only for, say, a fortnight. Block, on the spot, 23*s* 1½*d.* to 23*s.* 3*d.*; September-October, 21*s.* 6*d.* to 21*s.* 7½*d.* per cwt.

Ginger.—The *Jamaica* variety is again dearer. In sale, 97*s.* was paid for fine, 70*s.* to 62*s.* for good to medium, 61*s.* to 53*s.* for dull washed to ordinary. *African* ginger has been sold at 21*s.* 6*d.* per cwt. *Cochin* ginger is quiet. At public sale only wormy and common lots were sold at cheap rates; medium and small rough part lean at 25*s.* to 26*s.* 6*d.*; good medium rough, 34*s.*; selected bold rough, 47*s.*; medium and small part cut, 30*s.* to 35*s.*; cut tips, 30*s.*; wormy, rough ends, 18*s.* to 18*s.* 6*d.*; ditto small to bold, 20*s.* 6*d.* to 26*s.*; part cut, 23*s.* 6*d.* to 30*s.*

Gum Arabic.—There has been a good inquiry for most of the better classes of gum arabic, and in some cases higher rates have been paid. The first arrivals of the new crop of *Brown Barbary* gum (about 5 packages) have come to hand, but the quality is very poor; as yet the lot does not seem to have been sold. Some tons of Amrad changed hands at 80*s.* per cwt., and a small lot has since been sold up to 84*s.* per cwt. for good, and as high as 7*l.* for fine pale. Of *East Indian* gums, Aden sorts have been in demand, part of the parcel lately arrived has been resold at 6*l.* 7*s.* 6*d.*, and another parcel, rather better, has changed hands at the same price; 7*l.* 10*s.* was also paid for really fine gum. Ghatti and brown Amrad have also been in good demand. A large proportion of to-day's auction consists of these qualities. *Egyptian* gums very firm. Amrad of common quality has been in rather better demand. Owners of Ghezira gum in many cases require 90*s.* per cwt.; 87*s.* 6*d.* has been actually paid. *Turkey sorts.*—Retail sales of 1 or 2 bales at late rates only are reported. As regards *Senegal* gum all the available Galam has been sold at 7*l.* 4*s.* per cwt., and that figure is now quoted as the nominal value.

Honey.—An arrival of 225 cases *Californian* honey, presumably of the new crop, has just taken place. It is said that, owing to the low prices now current for the article, the American producers are using it up more advantageously in the country for sweetening wine and for distilling. As regards England, the honey harvest in North Westmoreland is the most successful known for many years. In the Eden Valley beekeepers on a small scale have obtained 30 and 40 stones this season, and at Morland, a village near Penrith, the aggregate yield is stated to be more than half a ton. In ordinary years honey sells at about 1*s.* 6*d.* per lb. At present it is difficult to dispose of it at from 6*d.* to 10*d.*

Indigo.—The market remains exceedingly quiet, and the small transactions are limited to the consumption. Prices still remain at 5*s.* 4*d.* to 5*s.* 10*d.* for good to fine *Bengal*, and 4*s.* 10*d.* to 5*s.* 3*d.* for low to medium ditto. *Madras.*—Vellore, 1*s.* 6*d.* to 4*s.* 5*d.*; native, 8*d.* to 3*s.* 2*d.*; Kurpah, common to fine, 1*s.* 5*d.* to 4*s.* 5*d.* *Oude.*—Native, 1*s.* 9*d.* to 3*s.* 3*d.*; plant, 3*s.* 6*d.* to 4*s.* 3*d.* *Guatemala.*—Sobres, 3*s.* 8*d.* to 5*s.* 6*d.*; cortes, 3*s.* 6*d.* to 5*s.* 2*d.*; ordinary, 2*s.* 4*d.* to 3*s.* 5*d.* The arrivals of East Indian indigo in London during the first eight months of the year have been, in 1887, 16,852 chests; in 1886, 19,675 chests; in 1885, 15,165 chests. The deliveries for home consumption and export have been 14,147, 12,816 and 14,911 chests respectively, while on August 31 our stock' numbered 13,307 chests, against 159,94 last year, and 12,412 in 1885. The latest telegrams from Calcutta report continued rains in the producing districts.

Insect flowers.—Trieste quotes higher prices for both flowers and powder, 1*s.* 11*d.* per lb. being wanted for the latter, best quality.

Isinglass.—A good supply was offered at the periodical auctions on Tuesday, the bulk of which was sold, as a rule, at a slight advance for fine qualities, while medium and common rates sold irregularly, often at a slight reduction. *Brazilian* isinglass sold at very high rates for honeycomb, while fine lump also was dear; but other descriptions were rather neglected. In *West Indian* isinglass there was no change. *Penang* tongue is neglected; but cake and leaf were generally from 2*d.* to 4*d.* dearer. For *Bombay* cake higher prices were also paid; but long *Saigon* leaf was slightly lower.

Lead Acetate.—Very firmly held, at 26*s.* 6*d.* for white foreign, with a rising tendency.

Lime Juice.—A Jamaica steamer brought 326 packages to-day.

Mace.—There is less demand for good qualities, which sell at slightly lower rates, while ordinary grades are inquired for, and firmer. *Penang*, good bold bright red, 2*s.* 8*d.* to 2*s.* 10*d.*; middling dull red, 2*s.* 5½*d.*; ordinary, partly mouldy, 2*s.* 5*d.*; pickings, 2*s.* 3*d.* to 2*s.* 4*d.* *Bombay*, good ordinary red and brownish, 2*s.* 6*d*; small dark, 1*s.* 6*d.* *West Indian*, 2*s.* 5*d.* to 2*s.* 7*d.* per lb.

Mercurials are 2*d.* per lb. dearer since last week, prices now being:—Mercury, ammoniated, 3*s.* 3*d.*; bichloride, 2*s.* 5*d.*; chloride, 2*s.* 1*d.*; with chalk, 1*s.* 3*d.*; oxide yellow, B. P., 3*s.* 5*d.*; oxide red cryst, 3*s.* 3*d.*; with sulphur, 1*s.* 11*d.*; mercurial ointment, 1*s.* 11*d.*; pill, 2*s.* 1*d.*

Musk remains scarce. We hear that privately very ful prices are being paid. One case arrived from China this week. The exports from that country in 1886 were 54,224 oz. (value 62,483*l.*), against 58,272 oz. (value 62,721*l.*) in 1885.

Mustard Seed is in brisk demand. New seed is being held at from 10*s.* to 12*s.* per bushel, while old fetches from 7*s.* 6*d.* to 10*s.* per bushel.

Nutmegs.—A large quantity was placed in auction the greater part of which was sold. Generally previous values were maintained, but in a good many instances holders accepted a slight reduction. *Penang* sold, 67's and 68's, at 3*s* 9*d.* to 3*s.* 10*d.*; 82's, slightly mouldy, at 2*s.* 11*d.* *Singapore*, unlimed, 125's, at 2*s.* 1*d.*; 92's to 139's, limed, part wormy, 1*s.* 9*d.* to 1*s.* 2*d.* *Bombay*, good shape and colour, 83's to 94's, at 2*s.* 11*d.* to 2*s.* 8*d.*; 106's to 195's, at 2*s.* 5*d.* to 1*s.* Limed wormy wild *Singapore*, at 9*d.* *West Indian*, 80's to 108's, 2*s.* 10*d.* to 2*s.* 5*d.*; 127's, 2*s.*; in shell, 55's to 87's, at 1*s.* 6*d.* to 1*s.* 2*d.* per lb.

Oil (Cottonseed).—*Crude* has again slightly advanced, and now stands 19*l.* 5*s.* on the spot. *Refined* on the spot unchanged, at 20*l* 15*s.* to 21*l.*; November-April, 18*l.* 15*s.* to 19*l.* Hull—spot, casks, 20*l.* 15*s.*; September-October, 20*l.* 10*s.*; November-April, 18*l.* Crude, spot, 18*l.*

Oils (Essential). — *Anise* and *Cassia* remain unchanged, with little business. Oil of *Cloves*, English, now quoted at 6*s.* 6*d.* per lb. Oil of *Lemon* is held at higher prices in Italy. The price of French *Lavender* has not yet been fixed; the English herb is now being distilled. On the Continent large arrivals of *Linaloes* oil have taken place; fine quality is held there at 9*d.* per oz, second quality 7*d.* per oz. Oil of *Sassafras* rising. *Peppermint* oil, American H.G.H. still offering at 13*s.* 6*d.* per lb.; violent efforts are being made to still further reduce the price. Japanese oil held at 3*s.* 6*d.* to 4*s.* 6*d.*, with somewhat more inquiry. *Menthol* crystals abundant and cheap at 3*s.* 6*d.* to 4*s.* per lb. In *Otto of rose* there is no change since the recent fall.

Oil (Linseed) remains quiet and unchanged. On the spot here, pipes waterside, 20*l.* 15*s.*; land, 20*l.* 17*s.* 6*d.*; barrels, 21*l.*; September-December, 20*l.* 7*s.* 6*d.*; January-April, 20*l.* Hull—spot, casks, 20*l.* 15*s.*; barrels, 21*l.*; September, 20*l.* 10*s.*; September-December, 19*l.* 15*s.*

Oil (Olive).—The market is firmer, and at Liverpool more money has been paid, viz. 32*l.* to 33*l.* for Saffi and Smyrna, and 35*l.* to 36*l.* for Taranto oil.

Oil (Palm) is firm and improving in position. For fine *Lagos* 22*l.* 10*s.* is now required.

Oil (Petroleum) quiet. *American* on the spot, $5\frac{5}{16}$*d.* to $5\frac{7}{16}$*d.*, according to brand; September-December, $5\frac{5}{16}$*d.* to $5\frac{3}{8}$*d.*; January-April, $5\frac{1}{2}$*d.* *Russian* on the spot, $4\frac{3}{4}$*d.* to 5*d.*, according to brand; September-December, $4\frac{15}{16}$*d.* to $5\frac{1}{4}$*d.*

Oil (Rape) dearer, both for brown and refined. English *brown* on the spot is now worth 22*l.* 10*s.* to 22*l.* 15*s.*; September, 22*l.* 10*s.*; October-December, 22*l.* 5*s.*; January-April, 22*l.* 5*s.* English *refined* on the spot 24*l.*

Oil (Turpentine) has advanced in price since last week, but is now again easier, closing at our last quotations, viz.: 25*s.* 6*d.* to 25*s.* 9*d.* for American spirit on the spot: 24*s.* 9*d.* for September-December, and 25*s.* 9*d.* for January-April.

Opium.—The latest Smyrna reports state that the decline in the market has made further progress, many holders of old crop being compelled to realise for want of cash. Sales have been made, it is said, of old *Salonica*, "tel quel," at from 14*s.* to 14*s.* 10*d.* per lb. On the whole the new crop is very firmly held, and the fall is practically confined to old opium. The arrivals at Smyrna on August 19 were 238 cases, against 1,747 cases at the corresponding date of 1886. The London market is unchanged.

Pepper.—The following prices have been paid at the public sales this week:—White—*Singapore*, dull at $12\frac{1}{4}$*d.*; *Penang* (without reserve), at $10\frac{1}{8}$*d.* to $10\frac{1}{4}$*d.*; small limed *Java*, $10\frac{1}{2}$*d.* Black—*Singapore*, $8\frac{3}{8}$*d.*; *Atcheen*, ordinary light, about 10 per cent. dust, $6\frac{1}{8}$*d.* to $6\frac{1}{4}$*d.*; fair, ditto, $6\frac{7}{8}$*d.* per lb. For arrival about 75 tons *Singapore* have been sold, July-August steamer, at $8\frac{3}{8}$*d.* to $8\frac{1}{2}$*d.*

Pimento neglected at 2*d.* to $2\frac{1}{8}$*d.* per lb. for ordinary to fair *Jamaica.*

Potash Compounds.—*Bichromate* is still selling at $4\frac{1}{2}$*d.*, while *Chlorate* is firmly held at 6*d.* per lb. Yellow *Prussiate* continues to be quoted at $7\frac{1}{2}$*d.* per lb.

Quicksilver.—At the beginning of the week the price was raised to 7*l.* 10*s.* per bottle, at which a good business was done. The importers then refused to sell more at that rate, and to-day fixed their price at 7*l.* 12*s.* 6*d.*, a figure higher than any which has been quoted since 1880. A further advance is looked for. At the Queensland mines, according to a letter from the manager, dated July 8, the operations are making satisfactory progress.

Quinine.—There has been an under-current of inquiry during the week, but prices do not as yet show any hardening. *German* in bulk is still held at 1*s.* 9*d.* per oz. by the makers, but second-hand holders are prepared to sell lower. A printer's error occurred in our report of the sale of one lot *Whiffen's* quinine in bulk at the drug auctions last week. This lot was knocked down at 1*s.* $7\frac{1}{2}$*d.* per oz., not 1*s.* 7*d.* as reported.

Rapeseed has somewhat improved its neglected position, and closed firmer at 43*s.* to 50*s.* per qr. for English, and 44*s.* to 47*s.* for foreign seed.

Saccharine.—We hear that the German works have at length placed some supplies on the market, which are held at from 44*s.* to 60*s.* per lb., according to quantity.

Shellac.—There has been a sharp rise in this article since last week, caused by speculative purchases. Our stock at the end of August is almost exactly the same as at the beginning of the month—viz. 76,855 cases of all varieties. There are about 400 cases *Orange* lac less now, but this deficiency is balanced by a corresponding increase in *Garnet* and *Button.* Yet, before the present advance set in this stock was actually worth less money than was the aggregate when it numbered only about 50,000 cases. The August shipments from Calcutta are given at about 4,000 cwt. A good speculative business is now being done, and prices have advanced as follows from the lowest points:—AC *Garnet* from 36*s.* 6*d.* to 45*s.* (600 cases have been sold to arrive at 47*s.* landed terms); *Second orange* TN, which was offering landed at 41*s.* has been sold at 50*s.*; fine *Orange* octagon B has been sold at 64*s.*, and *Button lac*, costing 48*s.*, at 54*s.* 6*d.* per cwt.

Soda Compounds.—*Ash*, $1\frac{1}{8}$*d.* per degree. *Bicarbonate* remains firm at 6*l.* 12*s.* 6*d.* to 6*l.* 15*s.*; *Caustic*, 7*l.* 10*s.* for cream, and 7*l.* 15*s.* for white 60 per cent. *Crystals* very firm and tending higher, 52*s.* 6*d.* to 53*s.* in London, and 46*s.* on the Tyne. *Nitrate* rather quiet at 8*l.* 17*s.* 6*d.* to 19*l.* per ton.

THE AMERICAN MARKETS.

New York, August 18.

Our market has improved already in the volume of business passing, and the outlook for the autumn trade is considered good. The prosperity of the country has received no check, and everything points to a continuation of the good time. The harvest has been a favourable one, and the general feeling is one of hopefulness.

The prices sterling (in parentheses) are what the different articles would cost delivered in London, all market allowances, discounts, &c., being taken into account. Importers can therefore see at a glance the course of this market compared with their own.

Balsams.—*Copaiba* is without change, only small arrivals are reported. *Peru* is cheaper; the jobbing market has declined to $1.10 (4*s.* 9*d.*), but a parcel in first hands can be bought 10 per cent. lower. *Tolu.*—The market has further advanced; sales were made at 35c. (1*s.* 7*d.*), and now 36c. is asked. It is reported that purchases were made in London for New York account. *Canada* balsam has declined again; 32c. (1*s.* $5\frac{1}{2}$*d.*) would buy the new crop.

Beans (Tonquin).—There is nothing new to report about *Angostura* beans; arrivals are small and the price is firm. The stock of tonquin beans is still very large.

Oils (Essential).—*Sassafras* has advanced to 38c. (1*s.* $8\frac{3}{4}$*d.*), and is tending higher. *Wintergreen* is scarce and dear, $2 (9*s.*) being readily paid for jobbing parcels. *Spearmint.*—The oil of the new crop is now offering, but no price has been fixed as yet; it is thought it will be cheaper than last year. *Peppermint.*—The distillation of the old mint has been finished in Mayne County, and, as stated in a previous communication, the quality would be inferior, the result has been worse than anticipated, the herb being very weedy. The oil is offering as "Prime Wayne County Oil Peppermint" at $2.25 *by the farmers*, or with commission, cost of tins, and freight added, equal to $2.45 in New York; this is equal to 10*s.* 6*d.* net c.i.f. London. The distillation of the new plantings of peppermint will begin next week, and on the price the farmers will take for this will depend the season's price for the crop. From Michigan there are doleful accounts of injury to the peppermint herb, so that it is probable that it is to the State of New York that purchasers will have to look for their supplies this year. A letter from a grower there, dated August 6, says:—"The old mint has been taken care of, and has turned out very poor, only from 2 to 5 lbs. per acre. We have had a hot and dry summer; our corn and potatoes have been used up; the corn fairly burned up with the heat. The new mint will be a poor crop also." The writer can vouch for the heat, the temperature being 100° and over in the shade when he visited that section of the country.

Quinine.—There appears to be no bottom to our market, for from week to week it goes lower. The Philadelphia maker reduced the price of phials to 52c. (2*s.* 1*d.*, 5 per cent.), while the official price for B & S in bulk is 40c. (1*s.* $8\frac{1}{2}$*d.*, 5 per cent.); secondhand holders are offering at 38c., and it appears to be the general opinion that lower rates will prevail. The enormous importation of German sulphate to our market has quite demoralised the article, and until the stocks are materially reduced there is no hope of better prices.

Roots.—*Senega.*—The autumn demand for Europe having been supplied, the market has become flat and dull, with no transactions. No Manitoba root has been offered as yet, but supplies from Minnesota are ample for present requirements. The market rules at 30c. (1*s.* $6\frac{1}{2}$*d.*). *Jalap* is so scarce here that it is doubtful if 50 bales could be found amongst the trade. The firm alluded to above have hypothecated their stock of 170 bales, which may come on the market later. *Serpentaria* is unchanged. *Golden Seal* is scarce and tending higher; large orders from Germany cleared the market, quoted 20c. ($11\frac{1}{2}$*d.*).

Sarsaparilla (Mexican).—About 600 bales held by banks as security for advances to a bankrupt firm are yet unsold; 130 bales arrived and were taken for the home trade, for at present there it no export inquiry. The market is $7\frac{1}{2}$c. ($4\frac{1}{2}$*d.*), but less would buy large lots.

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SEE ADVERTISEMENT, PAGE 8.

WOODHALL SPA
BROMO IODINE MINERAL WATER.
The strongest known Iodine Water in the World.
This remarkable Spa has been purchased by a Syndicate of gentlemen who have determined to make more widely known the extraordinary curative powers of this spring, which contains more Iodine and Bromine than any spring in Europe—"And, we may safely add, in any part of the World."—*Dr. Cuffe, for many years late resident Physician at Woodhall Spa.*
An analysis of the water having been made in November, 1886, by Professor Wanklyn, M.R.C.S., corresponding member of the Royal Bavarian Academy of Sciences, Professor of Chemistry, a very important discovery has been made, viz., the presence of Free or Elementary Iodine.
Dr. Wanklyn says—"So far as I am aware, this is the first instance in which free Iodine has been found in appreciable quantity in a natural water. For many years the Woodhall Spa has been celebrated as a valuable remedy in skin diseases. The fact that it is a solution of free Iodine is interesting in this connection, and well worthy of the attention of the medical profession."
The Woodhall Bromo Iodine Water is now being bottled at the Spring by the Sole Agents, BROMLEY & CO., Chemists, 233 High Street, Lincoln, 5 & 6 The Grove, Buxton, and at Woodhall. All communications to be addressed to them at the Spa, Woodhall Horncastle.

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EDITORIAL NOTES.

THE BRITISH PHARMACEUTICAL CONFERENCE.

MANCHESTER has no doubt beaten the record in the history of the British Pharmaceutical Conference in regard to attendance. We record the names of 237 ladies and gentlemen who, for a longer or shorter time, were present during the meeting. On no previous occasion has the number reached two hundred.

A numerical success of this kind was generally anticipated. The "teeming millions" of the district round Manchester, which the Lancashire newspapers never tire of talking about, could surely be relied on to furnish a contingent of a hundred. Then there was the most popular provincial exhibition of modern times with its many attractions, the prospect of a trip into one of the loveliest of English districts, a well filled scientific programme, and a smoking concert. From strophanthin to the switch-back railway there were temptations to every taste, and the wonder is that even more pharmacists did not take advantage of the opportunity of this pleasant social break in their business lives.

No one who has ever heard any of Mr. Atkins's speeches will need to be reminded of his oratoric gifts. It is impossible to give in a printed report the brilliant colour and the artistic finish which the President's delivery imparted to the address; but it is no exaggeration to say that these doubled its effect. Mr. Atkins had a larger audience than either of his predecessors has had, and his points were enthusiastically applauded. The House of Brunswick, the Manchester Ship Canal, the Pharmaceutical Society of Great Britain, and the Conference itself all received a cordial ovation as they were successively introduced in the panorama of the Victorian era which was presidentially unfolded. It took some courage to declare that our old friend of 17 Bloomsbury Square is "a society which has done more to raise the position of the chemist and druggist of this country than has been achieved by any other corporate body for its constituents;" but the meeting looked the speaker straight in the face and saw that he was serious, and the cheering was good-humouredly maintained.

On the subject of pharmaceutical education Mr. Atkins is no less peremptory than have been all preceding authorities. The question of education, he declares, "is *the* question of the hour, and brooks no delay." It will have to brook it, however, for the "compulsory training," which is to accomplish something, though we are not told definitely what, is still an unrealised idea. But Mr. Atkins goes straight to the root of the whole difficulty when he points to the preliminary training of pharmacists as the cause of whatever difficulty may exist in regard to the education question—and, we add, in regard to the social, legal, and commercial position of pharmacists. Mr. Atkins quite truly says: "The middle-class education of England is in a most unsatisfactory state; the education imparted in our national schools has so improved since the passing of the Elementary Education Act that the errand-boy is often more accurately grounded in knowledge than the apprentice." We are not quite sure that this condition can be suddenly changed by just raising the standard of the Preliminary examination. But we heartily agree that the life-long struggles, the illogical and wearisome complainings, and the melancholy failures, with which we are all but too familiar, are largely due to the inefficient early training of many of those youths who choose pharmacy as a profession before they know whether they are fitted for its duties. It is a fact—unprovable, but not less self-evident—that what many pharmacists have needed to convert an unsuccessful career into a satisfactory and comfortable one is a closer acquaintance with the first four books of Euclid.

We emphasise that one passage in the President's address alone, because we believe it tells a wholesome and an important truth; we are not, however, insensible to the merits of the rest of the speech, but we know it will be read in its entirety by thousands of chemists with interest and profit, and it would be only a waste of space to add here a general *résumé* of its topics.

The presentation of the first part of the "Unofficial Formulary" was a feature of the meeting. It will be remembered that a committee was appointed last year, charged with the somewhat vague duty of preparing a formulary of unofficial remedies. The committee consisted of W. Martindale (chairman), W. A. H. Naylor (secretary), A. C. Abraham, T. Greenish, T. B. Groves, T. Maben, N. H. Martin, R. Reynolds, C. Symes, and J. C. Thresh. The suggestion of work to be done led many chemists to hope for a formulary extending to Hop Bitters and Beecham's pills; and that hope perhaps to some extent accounted for the "cordial approval" of the idea which the Committee note. There must have been considerable difficulty in getting ten men in all parts of the kingdom to work together on this enterprise, and we are not surprised at the apparent meagreness of the result. We do not doubt that a good part of the year has been occupied in deciding what not to do; and if in the past twelve months a satisfactory plan of working has been organised, the time will not have been wasted. The formulary, which we print elsewhere, comprises thirty-seven items. There are three elixirs, the same number of liquid extracts, one emulsion, one hypodermic injection, one liniment, one pill, two liquors, eight syrups, and fifteen tinctures, with camphor and chloral and prepared tar. Most of the formulæ are new, but not all. On the whole they are a modest lot, and although we do not purpose at present to enter into any detailed criticism, we cannot help expressing surprise that the modesty of some individual members of the group of thirty-seven did not keep them entirely in the background, for their life will be as short as their conduct will be awkward.

Whatever has to be said of this formulary in the future, it must be admitted that so far as it goes it affords a real advantage, and the thanks of the whole trade are due to the gentlemen who have worked so disinterestedly. A "B.P.C. formula," though it has no legal standing, is yet more authoritative than an anonymous one, and is certainly better than none at all. We think, too, the course adopted of presenting the committee's work to the Conference without discussing it was the only practical method to pursue. The discussion can begin now.

We deal with the scientific work of the Conference in another article. In its social aspects the Manchester meeting was abundantly successful.

Mr. F. Baden Benger, who has worked so long and with so much ability for the Conference, has been chosen to fill its most important office for next year. Bath is to be the locality visited, though it does not appear that the chemists of that city had sent an invitation. So much the better. The Conference should by this time have arrived at full manhood, and be quite capable of planning its own proceedings. The principle of requiring all members attending the Conference to pay for the expenses they incur, so long advocated by us, is now, without doubt, an established success. This removes the necessity of local nursing, and though no doubt a friendly interest in the proceedings on the part of all pharmacists in the neighbourhood is much to be hoped for, it seems to us that the experience of an independent voyage by the Conference will tend to promote rather than injure its true healthiness.

THE CONFERENCE PAPERS.

Last week we gave a summary of our knowledge of the subjects of the Conference papers before those papers had seen the light of day. Now we have to show how far we have advanced in these particular directions. When the official programme was placed in the hands of the members on Tuesday morning, it was noticeable that the number of papers had decreased by three, due to the non-acceptance by the Executive Committee of the papers by Mr. Scott, which had not been submitted in the usual form. Ten papers were put down for consideration on Tuesday, and thirteen for Wednesday. We briefly summarise these and the points of the discussion in the order in which they were taken.

Strophanthus. Mr. Elborne, as being a grantee of the Conference, was the first to be called upon. He gave the results of another proximate analysis of strophanthus seed, two processes for the preparation of strophanthin, and an exceedingly complicated and expensive method for making the tincture. The chief fact in the paper was that he denied Professor Fraser's statement that sulphuretted hydrogen decomposes strophanthin; but, as pointed out by Mr. Dott, he gave no data for the assertion, and Mr. Gerrard hinted that both the processes for making the glucoside would possibly lead to the contamination of that body with acetic acid. The process for making the tincture was also objected to. Mr. Elborne's reply did not quite meet the criticisms, and little was added to pharmaceutical knowledge during the hour that was devoted to the subject.

Catha Leaves. The paper contributed by Professors Flückiger and P. E. Gerock was of such a nature that Mr. Naylor found it advisable to read only bits of it here and there. It consisted chiefly of a *résumé* of the literature of the subject, of observations made in Mr. Thos. Hanbury's garden, and of an account of the isolation of half a gramme of a presumably alkaloidal substance (*katine*) from 1,300 grammes of the drug. The principle forms a crystalline salt with acetic acid, and that is about all we know of it. No discussion.

Aconitine Mr. John Williams followed with a paper of greater interest and definiteness. Evidently the beautiful process of last year was too good to be true. The author now recommended exhaustion of the root with washed amylic alcohol, which has the virtue of not dissolving the dark-coloured oleo-resin of aconite. This extract is subsequently treated with acidulated water, that with an alkali, and the precipitated alkaloid is purified with and crystallised from pure ether. It is obtained in microscopic crystals only. In the discussion Mr. Holmes elicited that the root used was a good commercial specimen, but nothing more on this point could be gained. Nor could Mr. Conroy get any information regarding the amount of the yield; and, as usual, the irrepressible Mr. Long came up with some wonderful and amusing remarks on the danger of handling such a potent substance as aconitine. So the members were put in good humour for luncheon, and that necessary meal appeared to overcome them so much that barely fifty of the two hundred odd put in an appearance at the afternoon's sederunt.

Estimation of Ipecacuanha. This paper, by Mr. Ransom, consisted of a review of the literature of the subject, relieved from mediocrity by the fact that the author had tried most of the methods quoted. His conclusions were practically the same as Mr. Jones's. The ammonio-chloroform method, used with a continuous extraction apparatus, was recommended, but the author purifies the product, as it contains matters other than emetine, or the alkaloid may be removed from the percolate by acidulated water and estimated with Mayer's reagent. He obtained rather a high percentage of emetine from the root (average 1·66 per cent.). This was the subject of comment by Mr. Naylor and others, and the discussion as a whole indicated that our knowledge of emetine is unsatisfactory, and that work should now be devoted to characters of that alkaloid.

Mackay Beans. Mr. Moss in his paper stated that these beans were reputed to be poisonous, and having examined them chemically, he was able to report with some certainty that they contained saponin. Mr. Moss showed several curious specimens, such as a vesta-box made from the seeds and integument thereof, and these created some interest. There was a short but unimportant discussion on the paper, the only fact elicited being a statement by Mr. Holmes that the root of the plant is used by the natives as a soap.

Blaud's Pills. Mr. Maben then read a long but interesting paper on Blaud's pills. As a member of the Formulary Committee, he had to devise a formula for these, and this duty led him to try most of the methods which have been proposed. The leading points in his paper were a recommendation to adjust the quantities of sulphate of iron and carbonate of potash so as to give a pill containing about 1 grain of ferrous carbonate; he condemned the use of dried sulphate of iron because it favours oxidation; and, to prevent oxidation, as well as to keep the mass from becoming uselessly hard, he recommends the addition of glycerine and sugar to the mass. The former is necessary, and the sugar counteracts its too softening tendency. The President had now got the whip hand of the meeting, but when this paper was reached he intimated that he would allow more time for discussion. There was a good response. Although Mr. Maben's formula has been adopted by the Formulary Committee, that did not prevent two prominent members of it (Messrs. Martindale and Symes) expressing some doubts regarding the formula, especially as to heating the ingredients in order to make a mass. They also spoke highly of pil. ferri. carb. B.P., but Mr. Naylor neatly showed that these are not so good as Blaud's pills.

Vesicating Beetles. The beetles which Mr. J. V. Braithwaite reported upon are *Mylabris bifasciata* and *M. lunata*, and they hailed from South Africa. The appearance of the beetles was described. They closely resemble Chinese cantharides, but there are points of marked difference. The species bifasciata was found to contain no less than 1·09 per cent. of cantharidin, which is at least twice as much as is found in ordinary cantharides, and the other was equal in power to the official vesicant. This satisfactory report naturally leads to the query—Why should the more valuable species of mylabris not be officialised? It is surely time that this were done, and it might be in the same way that cuprea bark has got into the Pharmacopœia—viz., as a source of the active principle. This paper was generally spoken of as one of the best of Tuesday's lot; and it was followed by a discussion in which several members showed that they had not listened very attentively to the paper, for questions about probable supply were asked, although it had been stated that the flies were plentiful. Mr. Scott wished the Conference not to run away with the idea that the flies were so active as Mr. Braithwaite said, but his remarks did not meet with much sympathy.

English Rhubarb. Mr. Elborne announced that the "high cultivated" kind no longer exists, and that English *Rheum officinale* root is very like the dark East Indian variety.

Oil of Evodia. With the exception of a botanical description of the plant, Mr. Helbing added nothing to what was given in this journal last week. He uses two drops of the oil to each ounce of iodoform. The author of this paper exhibited a number of very tastefully put-up specimens, and he was rewarded for his trouble by a rather good discussion, although the speakers had evidently not forgotten his satanic majesty's proclivities for iodoform. Two points were prominent in the discussion: (1) Mr. Helbing's discovery was thought to be too good to be true, and (2) it was found that the trees will have to be grown before we get a supply of the seeds to make the oil from.

Cryptopine. Dr. Kauder described the characters and tests for this alkaloid and its salts. He obtained 3 lbs. of the crude hydrochlorate from 5,000 lbs. of opium, ascertained the purity of the salts he worked with, and by using the meconate for combustion was able to corroborate Hesse's formula. The meconate was fully described, as it is rather a remarkable salt. Mr. Dott was the only one who attempted to criticise this paper, but Mr. Brady made an interesting remark regarding the first announcement of the discovery of the alkaloid, and with this remark the day's proceedings were concluded, just a few seconds before the call of time (4 P.M.).

The Conference resumed on Wednesday morning at 10 A.M.

Dr. Leech on Pharmacy and Medicine. A paper on the well-worn subject of the "Relation of Pharmacy to Medicine" was prospective of the series of empty compliments from the representative of one of the "sister professions" to the other with which we have become so familiar in after-dinner speeches. But Dr. Leech, Professor of Materia Medica in Owens College, the author of this lecture, had a very different purpose in view. Basing his remarks on a consideration of the present condition of pharmacological research, he pointed out that the work of the pharmacist in relation to medicine must seriously change. Exhibiting the muscle of a toad, and showing by a pencil-mark produced on a revolving drum the contraction occasioned by a solution of veratrine (1 in 30,000), and quoting many other like effects, Dr. Leech argued that if such effects are obtained from such minute doses on a coarse tissue, the medication of the future, following scientific therapeutics, must be of more exact scientific accuracy than in the past. And from this he deduced that the demand for preparations manufactured on a wholesale scale and guaranteed to be absolutely pure and uniform would increase as it is increasing. Standardised medicines go to some extent in the direction required; but as most drugs contain more than one active principle, and sometimes contain principles antagonistic the one to the other, medicine will in future more and more rely on the certain effects to be produced with definite remedies, and if pharmacy is to hold its own, the pharmacist of the future must become the guarantor, and not merely the distributor, of the exact medicines dispensed. Whether pharmacy shall rise to a higher or fall to a lower position will depend on whether the scientific functions required of its practitioners are accepted or declined. Dr. Leech took some pains afterwards to explain that a solution 1 in 30,000 was not an infinitesimal, though it was a minute, dose. But he had also stated that a distinctly traceable effect on the dead toad's muscle would be produced if he merely used for another solution the cork which had been employed for the veratrin solution. That seemed getting very near infinitesimality. Anyway, Dr. Leech conveyed in very effective style a salutary lesson to his pharmaceutical audience. It was an intimation that scientific therapeutists are not going to be satisfied with the "home-made" preparations of the past, and that they are not so indignant as they have been asked to be towards the "enterprising commercial firms" who try to meet their wants by providing exactly dosed and absolutely pure medicines.

Salicylic Acid. Mr. W. H. Ince contributed a useful note on the estimation of small quantities of salicylic acid in beer and wines. The method which he recommended is a colorimetric one, and consists in distilling a measured quantity of the beverage, whereby an eighth of the salicylic acid in it is obtained in a pure state. A measured quantity of the distillate is afterwards treated with ferric chloride or mercuric nitrate, and the colour produced is compared with a standard solution. It was stated that eight-tenths of a grain per pint is a sufficient quantity of acid to preserve beer. There was a short discussion on the subject, during which Mr. Ince stated that it was the fact that the addition of salicylic acid in any degree was objected to by the Health Committee which met at Belgium—nevertheless it was used.

Cocaine. Mr. Williams next read a note on the purification of cocaine hydrochlorate. This simply consists in dissolving the salt in absolute alcohol, and adding to it five times its volume of absolute ether, which in a few seconds precipitates the cocaine hydrochlorate in a perfectly pure state; and if the initial salt is impure the supernatant solution is milky. The discussion on this paper brought out several good points. For instance, Mr. Symes enunciated the theory that cocaine salts of a basic character are more active than neutral or slightly acid salts; in support of this he mentioned that if the skin be washed with solution of sodium carbonate, the anæsthetic action of cocaine was soon manifested, although in ordinary circumstances it would not be. Prof. Tichborne stated that if solutions of cocaine were slightly acid they would keep good for twelve months, and Mr. Mahen was able to assure the meeting that there was no difference medicinally between the amorphous and crystalline salts of commerce.

Synthetical Products. In his paper devoted to the pharmacy of synthetical products recently introduced, Mr. H. Helbing described the chemical characters and medicinal properties of such substances as antipyrin, and gave formulæ for making pleasant preparations. He also commented on the fact that the remedies are very much used in Germany, but not so in England, and expressed his surprise at this condition of things. Mr. Helbing's patriotic remarks were not allowed to pass without comment, several speakers pointing out that the synthetical products would be much more used in Britain if they had been found to give the results which they were said to possess. They had been tried and failed, or produced effects which were not wanted.

Camphor Oil. In his paper on camphor oil, which Mr. MacEwan next read in abstract, the author gave the results of an examination of several specimens of the oil, the interest of which was of a commercial character. The dark oils were condemned as being retort residues, free from camphor and the lighter hydrocarbons. The best oils are those of a specific gravity about ·930, and which yield a good proportion of distillate below 190° C. as well as camphor at about 200° C. Mr. Moss, who was the only commenter on this paper, gave some interesting information regarding odorous bodies, such as safrol, which had been separated from the oil, and used in soap-making and other purposes.

Pharmacopœia Errors. Professor Tichborne confined his attention to the different temperatures at which imperial and volumetric measures are graduated—the former at 62° F., and the latter at 60° F. He found that an imperial gallon of water at 62° F. weighs 7,000 grs., but at 60° F. it is 11 grs. heavier. The measures graduated according to the metric system are also false, as the gramme is taken at 4° C., and the c.c. of the B.P. at 60° F. (15·5° C.), so that the relation between the two is not exact, and results in analysis are correspondingly incorrect—*e.g.*, in estimating hydrocyanic acid the results are ·12 per cent. too high. No new facts were added by the speakers.

Spurious Cubebs. In his paper on this subject Mr. Kirkby described the minute structure of a spurious berry (undetermined), and compared it with similar structures of true cubebs and *Piper crassipes*. The new berry has a cajeput odour, and affords a crimson colour with sulphuric acid, which facts will be of more general interest than the microscopic structure. Dr. Symes advised chemists to test their powdered cubebs for sand, which can easily be done by rubbing up in a mortar with a little water.

Nitrites. In a lengthy paper entitled "A Contribution to the Chemistry of the Nitrites and of Nitroglycerine," Dr. Atkinson gave a *résumé* of the general and his own literature on the subject. The paper was read in abstract by Dr. Thresh; and Mr. Martindale, in commenting upon it, objected to nitro-glycerine being called a poison; 10 grs. of it had not the least effect on a cat, when administered by De Vrij.

Morphine Derivatives. After referring to the chemistry of these compounds, Messrs. Dott and Stockman describe methylmorphine or codeine $[C_{17}H_{18}(CH_3)NO_3]$, which is the same chemically when prepared from opium as it is when made from morphine, except that they differ very slightly in rotatory power; but it is conclusive from physiological experiment that they are identical. Dimethylmorphine $[C_{17}H_{17}(CH_3)_2NO_3]$ is quite dissimilar in physiological effect from the morphine group. It induces death in frogs owing to muscular poisoning, and has no narcotic influence on rabbits. Ethylmorphine $[C_{17}H_{18}(C_2H_5)NO_3]$ is exactly similar in physiological effect to artificial codeine, but diethylmorphine $[C_{17}H_{17}(C_2H_5)_2N_2O_3]$ was obtained in too small quantity for pharmacological experiment. Acetylmorphine, the last derivative commented upon, has a formula of $C_{17}H_{18}(C_2H_3O)NO_3$, differs very slightly from morphia; if anything, the narcotic and tetanising influences are developed with smaller doses. This paper was followed by a discussion, not upon the subject of it, but on the desirability of supplying members with advance copies of such abstruse papers; and one gentleman, who evidently had become hopelessly fogged, suggested that they might be published a few weeks before.

Logwood. Mr. Siebold now stepped on the platform, and in lecture fashion communicated his contribution on the pharmacy of logwood. His text really was, What kind of logwood should be used in pharmacy, the dark or the light? Mr. Siebold showed that the B.P. is muddled on the subject, and that the light-coloured wood has undergone no fermentation and was more astringent than the dark or fermented variety. He especially pointed out that commercial solid extracts are highly impure, and he recommended the introduction of a one-in-one fluid extract prepared from unfermented logwood. This was a perfectly permanent preparation. The thoroughly practical character of this communication induced the most general and intelligent discussion of the meeting. There is no question that Mr. Siebold's suggestion is a distinct pharmaceutical improvement, and this was apparently felt by the meeting. Afterwards the same author demonstrated the applicability of tincture of dark logwood as a test for metals, especially of alum in flour. The demonstration was very successful.

Innocents. Now, said the President, must come the necessary massacre of the innocents, which consisted of two papers read in abstract by Dr. Thresh.

Cocoa Butter. In this paper Mr. E. J. Millard reported, from observations with specific gravity, melting-point, and the ether test, that of eighteen specimens of cocoa butter examined, only two were decidedly impure, being of high specific gravity, and giving a turbid solution with ether.

Cinchona. Mr. Hooper's paper was read in very brief abstract. He dealt chiefly with the testing of a number of crown barks which had been grown under different conditions. The effects of manuring with different fertilisers were also given in detail.

Carbolic Disinfectants. Then the President intimated that Mr. A. H. Allen would give a short abstract of a paper which he had promised, but which had not been placed on the programme. It had reference to crude "carbolic acid" and "carbolic" powder, as procured from blast-furnace tar creasote. This is creasote after purification with an alkali, and is largely placed on the market as "carbolic acid," but Mr. Allen pointed out that it is not a phenol. He showed specimens of "neosote," as prepared by the Eglinton Iron Company, and explained that they were put on the market for what they were, and not as carbolic acid.

This concluded the reading of the papers and the solid work of the Conference.

THE ADULTERATION OF DRUGS.

The Local Government Board, in their annual report just published, deal, as usual, with the reports of the public analysts furnished to them. We have before pointed out, and we have expressly directed the attention of the officials to the slovenly manner in which they check the work done under the Act. For years past they have taken the reports of the analysts, stating simply the number of samples analysed and the proportion found adulterated, put the whole into a table, and then some Whitehall statistician has deduced the relative honesty of the different classes of tradesmen attacked. No consideration of the fact that suspected samples chiefly have been tested, no indications of the character of the adulteration, and, above all, no proof of the analysts' accuracy have been given along with these tables. We have, indeed, traced instances where analysts' charges which have been completely refuted in courts of justice have reappeared in these perfunctory official reports Some little respect for our remonstrances seems to have been paid by the Board this year, but it is limited to the insertion of the following paragraph. The Board say :—

> "The following table shows the number of samples examined during the year, and the percentage of cases in which adulteration was reported. It is necessary to point out, however, that this percentage includes numerous cases in which the adulteration was so small that no proceedings were instituted, whilst in some instances the prosecution failed because it was shown that due notification of admixture had been given by the vendor. The reports which we receive, being copies of those made by the public analysts to the authorities under whom they act, as a general rule merely specify the results of each analysis made by them, and present no particulars as to any legal proceedings subsequently taken against the vendors. We have no means, therefore, of ascertaining in how many cases the analyst's report of adulteration was followed by a prosecution, but if we generalise from the limited information in our possession on this subject, we may perhaps roughly estimate that the number of convictions was at any rate less than half that of the number of samples reported against."

It might have been thought worth while, and it would surely not have been impossible or unreasonable, to require the addition of another column to the report, recording the cases in which prosecution was attempted on the analysts' reports, and also declaring the result.

Respecting the adulteration of drugs, the Board write as follows :—

> "The number of samples of drugs procured for analysis might, as it seems to us, be increased with advantage, considering the great importance to the public health of pure medicines. Only 435 samples were examined during 1886, and of these forty-seven were found adulterated, more than half being samples of sweet spirits of nitre. In a few cases prescriptions were made up with serious inaccuracies. In one instance 20 per cent. less than the prescribed quantity of iodide of potassium was supplied; in another, where a number of powders was prescribed, each to contain 4 grains of a particular drug, the weight varied from 1 grain to rather less than 6½ grains; in another case pills were made up which according to the prescription should have contained a ¼ grain of extract of nux vomica and 2½ grains of extract of gentian, but upon analysis it was found that the relative proportions of nux vomica and gentian had apparently been reversed. The analyst observes that 'this was a most serious mistake, and it is not surprising that the pills made the person who took them seriously ill, as such a quantity of nux vomica was sufficient, under some circumstances, to have produced fatal results.'"

From other sections of the report it appears that milk is still the chief trouble with analysts, and that butterine is largely bought by farmers for incorporation with butter. This last fact is given on the authority of the well-known "Analyst for Sheffield." The unavowed mixture of chicory with coffee is said to be still general. The adulteration of mustard, which was rife in the days when the duty which raised its price made adulteration profitable, seems now to have been entirely abandoned; the "so-called adulteration" (this is the Board's phrase) of mustard continues to consist merely in the addition of a small quantity of wheat-flour and turmeric. The turmeric is no doubt introduced to heighten the colour of the preparation, and the wheat-flour is added not so much for the sake of the small saving effected as because it mitigates the bitterness which is a characteristic of pure mustard, and, moreover, prevents the fermentation to which the unmixed article is liable. Pepperette is the incident of the year. Spirits and lard are found to have been adulterated with water only.

Pharmacy Council Dispute in Toronto.—The Guelph *Daily Mercury* of Tuesday has the following :—"On Monday morning City Treasurer Hervey was served with a writ by Messrs. Coffee, Field & Wissler, at the suit of J. M. Pearen, druggist, Toronto, to recover $2,000 damages for wrongfully depriving him of his office of member of the Council of the Ontario College of Pharmacy, and to restrain Mr. Hervey and other members of the Council elected on July 6 last, from acting in the capacity of members of the College Council, and to have the election declared null and void on the ground of alleged improprieties in connection with the election. Thirteen members were elected, three of whom were new men. The impropriety complained of is understood to consist of the registrar opening the balloting envelopes and arranging them for the scrutineers' count. It was his usual custom, but it is claimed that this is only made the ground of opening up more interesting developments."

Correspondence

Memoranda for Correspondents.

Always send your proper name and address: we do not publish them unless you wish.

Write on one side of the paper only; write early; and devote a separate sheet of paper to each query if you ask more than one, or if you are writing about other matters at the same time.

If you send us newspapers please mark what you wish us to read.

Ask us anything of pharmaceutical interest: we shall do our best to reply.

Before writing for formulæ consult the last volume, if you have it.

Letters, queries, &c., not noticed in this issue will, if possible, be attended to next week.

The Pharmaceutical Society of Ireland.

SIR,—In your issue of August 20 you say, "The Pharmaceutical Society of Ireland scarcely deserve sympathy" for neglect of duty and want of success; but, sir, let me remind you that the Irish Privy Council is partner with them, and that the first law officers of the Crown have been their advisers and have helped to place them in their present position.

It may be presumptuous of me, but I have received not a little odium in the past for differing with the Council on this and other questions. I have always maintained that they should have opened, and kept open for a limited time, a second register for chemists and druggists; although they might not have power to compel registration of those whose prescriptive rights were reserved, it would most certainly have left the onus of proof on any who neglected the opportunity.

Only lately they have been obliged to revise their mode of conducting their Preliminary examination—an examination which I contend they are not entitled to hold at all, any more than to require either service or curriculum. No person can find any provision for such in sec. 21 of the Act, nor elsewhere in the Act is there any sentence or clause contradictory of the following:—"All persons desirous of being registered as pharmaceutical chemists under this Act may at any such examination present themselves for examination, and they shall be examined with respect to their knowledge of the Latin and English languages, of arithmetic, of botany, of materia medica, of pharmaceutical and general chemistry, of practical pharmacy, of the British Pharmacopœia, and of such other subjects as may from time to time be prescribed," &c.—all at the one examination; "and *the examiners* appointed by the Council *are hereby empowered*, after such examinations respectively, to grant or refuse to such persons as *in their discretion* may seem fit certificates of competent knowledge and qualification and skill to be registered under this Act." You are aware the Council do not allow the examiners any discretion. Sec. 17 provides that "every regulation made under the Act must receive the approval of the Lord Lieutenant and Privy Council, and be published in the *Gazette*, and laid before Parliament," and "all such regulations when so approved shall be of the like force and effect as if they had been enacted in this Act." These regulations have been made to do duty for an amending Act, but I reckon they will have more force if allowed to lie than if attempted to be put in force at law.

I am still a member of the Society, and hope to continue one, although I disapprove of the course adopted by the Council, and believe that in time all the points on which I differ with them will be decided in favour of my view if they are questioned at law; but if you censure the Pharmaceutical Council you must not overlook the action of the Privy Council, who, it is reasonable to presume, looked to the legality of the "Regulations" they approved, and also to the interest of those against whom the Pharmaceutical Council were *legislating*.

Apart from the law, I have always held the Pharmaceutical Council would be in a better case if, when they proceed against a chemist and druggist for compounding, and he says, "I am an old druggist, and know how to compound a prescription as well as you, and I never do a risky one or made a mistake; but you will not let me qualifiy legally unless I not only pass two exams, but put in four years with one of yourselves. I've got experience, in my own business or in another (or at some school, it may be), and it is only jealousy makes you annoy me now"—I say they would be in a much better case if they could say, "If you are as competent as you think, we hold our examinations every three months; come up and pass." If he failed to do so, then the public would have very little sympathy with him.

Now as to the licentiates of the Pharmaceutical Society of Ireland. Do they deserve the sympathy for which they clamour? According to the 1887 register there are 286 of them. How many are supporting the Council, or in a position legitimately to do so? Fifty-seven *elected* and sixteen by Act of Parliament—total seventy-three; deducting the twenty-one Councillors (of whom eight are original members, ten are connected with wholesale houses, including three governors of the Apothecaries' Hall, and two others, licentiates of the Apothecaries' Hall), we have fifty-two, or about 21 per cent., the remainder being content to have their licence to compound—and complain. At the last annual meeting there were, I believe, only three "members" and eight "Councillors" present. I would earnestly press on all licentiates that their duty is to rally round the Society, and support, or reform, the Council. It is their own fault if the Council rides its own hobbies to their detriment.

I am, sir, yours truly,

Dublin. R. J. DOWNES.

Breakdown of the Irish Pharmaceuticy Act.

SIR,—Allow me to say a word in favour of your article on the above. You have, I think, struck the right nail on the head by leaving the blame of the unworkableness of the Act of 1875 on the Irish Pharmaceutical Council—*i.e.* the predecessor of the present one. But I do not wish to condemn them for this, as it is quite natural for all parties to legislate for themselves, and they, in arranging not to take cognisance of the grade of chemists and druggists, to my mind have made a great mistake; because, instead of the grade becoming extinct, they are on the increase. I sympathise with the Council, but only partially, as I consider the work should have been completed twelve years ago, by providing for the examination of those desirous of acquiring the title of chemist and druggist. This would have enabled the large number of assistants and apprentices then in the trade (for whom no provision was made in the Act) to have qualified themselves legally for keeping open shop for the sale of crude drugs, poisons included. Of course it may be said that two years' grace was given, but we must remember that that was only for those who wished to come up for the higher examination; and some of us who saw our masters bracing themselves up for it had very little desire for undergoing the same then, and afterwards it was put out of our reach by the Council framing a by-law debarring all except those who could present credentials that they had been a certain time behind the counter of an apothecary or pharmacist. Several of these have gone into trade since, and have been allowed to establish themselves, just because the door was not closed against them. These men are deserving of the sympathy of all right-minded pharmacists, and the sooner the Council arrange for the registration of those in trade at present the better. If the Council cannot see their way to rescind their former motion of not having any examination for these men, they can at least make good what has gone wrong by registering all who are in trade now. All youths entering upon their apprenticeship understand the issue fully.

I was pleased to see in your last week's issue a letter from Mr. Brunker. He evidently realises the position the Council are placed in, and I am sure the Society will in future be very slow to institute proceedings against men in the trade who, if it is said they are in trade illegally, wish to legally qualify themselves by registration or examination. But I cannot agree with Mr. Brunker in his statements that the Council know the requirements of the country, and that there is no call for the grade of chemists and druggists. Why, sir, what would three-fourths of the towns in Ireland do if it were not for the same, as there are not enough prescriptions to support a pharmacist? and would not the public at large be the sufferers, if they had not a party of the druggist class from whom they could get their drugs, chemicals, paints, colours, &c.? Professor Tichborne in May last brought this matter before the Council, by stating that there were sixty qualified men for 1,920 post-towns in Ireland, or, in other words, one chemist to every thirty-two post-towns, showing clearly that this does not suit the public convenience.

I trust that, at the next meeting of the Council in Dublin, the matter will be approached with the full desire to do justice to all concerned, and that an amicable arrangement will be effected which will bring the Council the everlasting praise of their humbler brethren, the chemists and druggists.

I am, sir, yours, &c.,

Belfast, August 29. A WHOLESALE DRUGGIST.

Drawback on Spirituous Preparations.

SIR,—Referring to your article on the drawback on spirituous preparations, I beg to say that by the law passed in July the taxation of spirits will be entirely altered in Germany on October 1. Spirit for drinking will be taxed four times as high as formerly, while spirit for industrial purposes gets the same return bonification as formerly, and the exceptional position of Hamburg as a free port remains unchanged by these laws.

What the effect of the laws on the price of spirit will be it is very difficult to say, and variations in the market price of spirit of 25 per cent., from one day to the other, and down again to the same amount the next day, show that nobody knows what is to come.

Generally it is understood that the home consumption will be reduced by the high taxation, and a still larger part than formerly will come for exportation, which would press on the already very much reduced prices. Therefore the agrarian party have formed a project of monopolising the production of raw spirits by entering into a convention, and by forming a large institution called the "Spirit Bank," to which all spirit is to be delivered, and through which it is to be sold by monopoly, so that the regulation of the price of spirit would depend upon the Spirit Bank. And as the price guaranteed to the distillers by the bank (according to the project) is double of what the distillers get now, of course a corresponding rise would take place; but, on the other hand, new distilleries would of course be erected, if a profit of 100 per cent. or more could be made on raw spirit, and it is calculated that probably a few new large distilleries might break the bank in two or three years.

Agitation *pro* and *contra* is running high—in fact, a general election does not use up more printing-ink than does this matter, which must be decided within the next few days, as the originators of the project declare that if not 80 per cent. of all spirit is guaranteed to them for the next three years they will let it drop and allow matters to take their course.

All this does not affect the free port position of Hamburg, where there will be no duty whatever on spirit, and where all handling and manufacturing of spirit goes on without the slightest control of the Customs whatever.

I remain, dear sir, respectfully yours,

Uhlenhorst, near Hamburg. JOH. D. BIEBER.

Soluble Essence of Ginger.

SIR,—In a recent issue (August 13) you publish, in answer to "Chemicus and others," Dr. Thresh's formula for soluble essence of ginger, with several notes thereon. I have since tried both the magnesia and the lime and acid process without much success, and am anxious to obtain further information. The magnesia (2 oz. to one pint) lost 6 oz. during filtration, and was not any more soluble than before. The lime and acid process was more successful, as I obtained an essence which gives a clear syrup in almost any proportion; but where is the beautiful ginger aroma gone to, and of what use is a soluble essence without it? I have purchased soluble essences, and find none of them any better than the one I have produced. I now send you two samples of syrups. No. 1 is made with the essence of ginger, 1 + 1; No. 2 is the same essence after being made soluble, the strength of the syrups being the same in both cases, viz. 1 in 16. Will you please give me your opinion as to the best way to clarify syrup that has become cloudy after essences have been added? also say if there is any other method of obtaining soluble essence of ginger? Yours, &c.,

GRATITUDE. (12/151.)

[Provided light carbonate of magnesia be left sufficiently long in contact with the essence, a soluble preparation with fairly good aroma is obtained. The more resinous matter there is removed from the essence, the less aromatic and more soluble does it become. Has "Gratitude" tried the alum method? Use ʒviss. of liquor potassæ for each 40 grains of alum. The quantity stated on p. 206 is a misprint.]

Dispensing Labels.

[The following are amongst the letters received before the result of the competition was announced.]

SIR,—I have been very interested in your label competition, and have learned something therefrom, though I suppose my conclusion is the same as everyone else's—that I like my own labels the best. My idea is that neatness is the second desideratum, distinctness being the first. No scrolls, flourishes, either in the designs or writing, these being out of place and cumberers of the ground; the printed matter small and neat, not to dwarf the writing, except for poisons, for which I use same plate as for mixtures, but on red paper, and "for outward application only" very distinct.

Yours, &c.,

T. C. (145/24.)

SIR,—I must confess to some disappointment in regard to the labels you gave in page 117, for I had expected to see some new ideas in style and arrangement. If I may venture an opinion, the neatest label so far (August 8) is that of Mr. Johnson Cripps; yet, in respect to this one, I think it would have been better if the whole of the directions could be seen without the necessity of turning the bottle.

The shape of my label (name at the top) is governed by the fact of my name and address being embossed on the lower part of the front of the bottles. I think that the words, "shake the bottle," should be printed below the bottom "mixture" line, so that it may be cut off if desired.

Yours very truly,

J. J. OGILVIE EVANS.

"Blood Mixture" Hand-bills.

SIR,—A few days ago a parcel was tendered, through the Midland Railway Company, to us containing a consignment of "Blood Mixture" hand-bills, and doubtless collected by some kindly-disposed Midland County chemist; but as no name appeared to lead us to the identification of the donor we are entirely dependent on expressing our thanks through the medium of your valuable trade journal for the weighty mark of his appreciation. Yours very obediently,

August 30. J. BEEDZLER & CO.

Doubtful Names.

SIR,—I do not think "West Riding" was right in giving pil. coloc. co. for "pillanuff." I should have no hesitation myself in giving for it pil. rufi., for undoubtedly this was intended. In regard to his construction of "bieroneal," I am not sufficiently versed in the dialect of the North to give a decided opinion, but I certainly should not have dispensed pil. calomelanos. I think that "bieroneal" was intended for pennyroyal. H. B. G. MORRIS.

148/60. *Phœnix* writes:—"Pillanuff" is pil. rufi. (pil. aloes c. myrrh.), and "bieroneal" ferri sulph. These are, at least, what have always been dispensed in my neighbourhood.

DISPENSING NOTES.

[*The opinion of practical readers is invited on subjects discussed under this heading.*]

Dr. Ward Cousin's Prescription.

SIR,—I read the prescription you publish in this week's paper as "illegible" as under :—

Liq. strychninæ	♏iv.
Quinæ sulph.	gr. j.
Acid. phosph. dil.	♏x.
Æther. chloric...	♏xv.
Syr. aurantii	ʒss.
Aquæ ad	℥iss.

M.

Am I right ? I remain, sir, yours faithfully,
Rugby, August 27. F. C. ISHAM WILSON.

SIR,—The autograph prescription copied in your last issue must be a very flattering representation of the original, or else the "worst" of the bundle so "shocking to look at" has no claim to the description "illegible."

The question, "How many can decipher it ?" should have been, "Is there anyone who cannot read it ?" for there is neither ingredient nor quantity that admits of doubt, even to one unacquainted with the peculiarities of the writer. A dispenser unable to read such a prescription is no more fit for his position than one who cannot make a pill or spread a plaster. What is the object of a chemist's training and experience if it be not to give him facility in reading prescriptions of all styles of caligraphy ? At any rate, let us reserve the title "illegible" for something deserving it.

Yours truly,
35 Clifton Road, Maida Vale, W. R. H. PARKER.

[The above rendering by Mr. Wilson is the first correct reply received (on Saturday morning last), and we have received about 150 since then. There are others who, like Mr. Parker, complain that the prescription is not so bad as many that they have seen, and that it is distinctly legible to a careful reader. That is so. The prescription was reproduced because of its peculiarities, such, for example, as the sign for minim. Several translators render the first line "liq. strychninæ, ♏xiv. ;" others take the ♏ for ʒs—and little vagaries like that on the part of the dispenser greatly aid physicians who are careless writers in getting rid of their patients.]

Copaiba Resin Emulsion.

SIR,—As this prescription stands, it cannot be satisfactorily dispensed. The quantity of pulv. tragac. co. ordered is not sufficient to emulsify the resin copaiba. Instead of ʒj., use ʒij. pulv. tragac. co., and soften the resin copaiba by rubbing it in a hot mortar before adding the pulv. tragac. co. By triturating assiduously, and gradually adding the water, a satisfactory product will be obtained. I may add that where resin copaiba is ordered, and the emulsifying agent left to the dispenser, pulv. amygdalis co. will be found to give a most satisfactory result.

Oxford. H. B. G. MORRIS.

Extractum Ergotæ Liquidum.

SIR,—In THE CHEMIST AND DRUGGIST of August 6 I notice a communication by "Ergot," under the heading "Extractum Ergotæ Liquidum." I had, I believe, the identical prescription offered to me for compounding. I refused to do so ; hence it may have been taken to Newcastle for that purpose.

You will observe the dose of the ergot is in ʒj. doses, the dose of the B.P. being 10m. to 30m. ; hence the dose of the ergot was double that of the B.P. in its extreme.

I marked the ergot on the recipe thus ×, and drew the attention of the young gentleman who presented it to the mark I had made, stating it was a very extreme dose of a poisonous medicine, and that I would not find myself justified in compounding it according to the text.

I find in "Squire's Companion" to B.P. the dose of "Ext. ergotæ liquid." to be 10m. to 60m. Query—which is correct, B.P. or "Squire" ? Yours respectfully,

CULLERCOATS. (152/7.)

153/10. *J. A. R. Hilton* writes, in answer to "Heder's" question regarding "salicylate mixtures" :—I have repeatedly noticed a yellow coloration formed at once when pot. bicarb. and sodæ bicarb. are dissolved with sodium salicylate (artificial), but never with the natural salt.

153/16. *Nemo* is perplexed, as no doubt the prescriber was, with the following prescription :—

Acid. boracici	ʒiss.
„ benzoici	ʒiss.
„ sulphurosi	ʒij.
Tinct. ferri perchlor.	℥j.
Sp. chlorof.	℥j.
Aq. menth. pip. ad	℥viij.

Ft. mist., cujus cap. coch. med. ex aquâ frig. ter in die.

[It is impossible to send out a presentable mixture. The benzoic acid, having been dissolved in the sp. chlorof., is at once thrown out on the addition of water, and any ferric benzoate which may be formed is shortly decomposed by the alcohol present into an oxy-salt or hydrate salt, which latter is of course deposited.]

MISCELLANEOUS INQUIRIES.

152/73. *J. J.*—The following is the formula in general use for Locock's **Hair-wash** :—

Ol. macis express...	ʒj.
Liq. ammon. fort.	℥ss.
Ol. olivæ	℥ss.
Sp. rosemar.	℥j.
Aq. rosar. ad	℥viij.

Beat the oil of mace thoroughly in a mortar, add the olive oil and incorporate well, add gradually the liq. ammon. fort. diluted with double its volume of rose-water, add the remainder of the rose-water, and, lastly, the spirit of rosemary.

152/50. *Spes* is assured that a certain cure for **Blackheads** would be appreciated by many of our readers. Squeeze out the black-heads by pressing the fine tube of a watch-key over the spots, bathe with warm water and soap, and paint on some spirit of camphor.

152/49. *Llanfair* (1) is anticipating winter, and wants a thoroughly good **Cough Mixture**, similar to some of the much-advertised ones. The following may suit him :—

Ext. glycyrrhizæ liq.	℥iij.
Tr. camph. co.	℥vj.
Tr. opii	ʒvj.
Oxy. scillæ	℥xvj.
Syr. marrubii	℥viij.
Ol. anisi	ʒss.
Aq. dest. ad	℥xl.

Misce. F. s. a.

Dose : One teaspoonful.

(2) **Essence of Smoke** is crude pyroligneous acid.

152/42. *W. T. N. G.*—This form will suit you :—

Physic Ball for Horses.

	Lbs.
Aloes barb.	2
Ol. palmæ	1½
Pulv. zingib...	½

Melt the palm oil and beat in the aloes and ginger.

The quantity to be weighed out will of course be double that of the weight of the aloes intended to be given. Horses should always be "prepared" by being deprived, for thirty-six or forty-eight hours, of all food except bran-mashes, which are in themselves laxative, and enhance the action of the ball.

151/20. *T. E. B.*—The foods you name we believe to be identical, and are prepared by the following *patented* process:—

	Parts
Wheat flour	720
Bruised or ground malt	720
Potassium bicarbonate	21·75
Water	2,880
(Or) Fresh skimmed-milk	12,458

Mix the flour and malt with one-fourth the quantity of potash, and add the water or milk; heat to 150° F., and keep at that temperature for 1½ hour; boil for 2 minutes, strain, evaporate to dryness, powder, and add the remaining bicarbonate of potash.

The English patentee is Von Leosner. The following is a food which you might prepare yourself:—

	Parts
Wheat flour	100·0
Flour of barley malt	100·0
Bicarbonate of potash	3·5
Sugar of milk	50·0

Mix and keep in an oven at a temperature of 110° F. for three hours.

151/64. *Kilwhang* sends us a sample of **Erasmus Wilson's Hair-wash**, prepared by a hairdresser in Westminster, and he wishes to know the formula. The following seems to be the composition:—

Acet. cantharides	℥ss.
Aq. melissæ	℥ss.
Glycerini	℥ss.
Aq. flor. aurant.	℥ij.
Aq. dest. ad	℥viij.

Misce.

The odour of the acetic acid is developed after a time.

151/34. *Euclid.*—(1) The most reliable amalgams for tooth-stopping are protected by letters-patent, and the names of a variety, with information as to colour, setting properties, &c., may be obtained from Messrs. Claudius Ash & Sons, The Dental Manufacturing Company, and similar houses. The ordinary white tooth-stopping is a mixture of chloride of zinc, deliquesced into a syrupy consistence, and oxide of zinc, made into a paste just before requirement for use. (2) Notes of lectures on "Dental Pathology" and "Preserving Worthless Teeth" appeared in THE CHEMIST AND DRUGGIST of December 4, 1886.

152/21. *Chocolate* will find the following a good **Cream-coloured Face-powder**:—

Bismuth. carb.	ʒij.
P. lap. calam.	℈iv.
P. cret. gall.	℥j.
P. amyli	ʒvj.
White rose	ʒij.

Misce.

This correspondent has heard that aperient preserved walnuts are sold by chemists in Devonshire, and he would like to know how to prepare them. Can any of our readers supply the information?

152/10. *F. C.*—**Brilliantine.**—It is customary in the West-end to keep a separable and a non-separable preparation; the latter is usually prepared by dissolving absolute alcohol in an equal quantity of castor oil and perfuming; the latter generally consists of heliotrope (or any other spirituous perfume), 3 drachms, and almond oil to 2 oz. The following will make a good separable brilliantine:—

Ol. jonquill.	ʒv.
Ol. jasmin.	ʒv.
Ol. amygd.	℥ij.
S.V.R. ad.	℥iv.

Misce.

S. K. C., who makes a children's cordial (containing treacle and sugar) which ferments, and would be glad to know how to prevent the fermentation, should try the following method of preparation:—Add one-third more of distilled water and boil down to the bulk required; put 1 grain of nitrate of potash to each fluid oz. and cork tightly.

149/12. *Drofter.*—You will find a formula for cucumber ointment on page 156 of last volume. It is more economical to buy the ointment, as it cannot be made satisfactorily in small quantities.

149/49. *Ajax* asks, "What is **Sanitas**, and how made?" To this we cannot make an explicit reply, the article being the subject of a patent. But this we can say, that it is the result of a long series of researches by Mr. C. T. Kingzett on the chemistry of essential oils. The basis is turpentine which has undergone a change whereby 10 per cent. of it is converted into peroxide of hydrogen, camphoric acid, and other camphor derivatives. This is done by keeping a mixture of turpentine and water at a blood-heat temperature for several days, and passing a current of air through it constantly. Then the 10 per cent. of changed turpentine is collected, mixed with other ingredients (amongst which is eucalyptus oil), bottled, and sold to chemists at a price which yields a good profit.

149/7. *Izonia.*—The flavours of the **Herb Extract** which you send are, apparently, calamus, coriander, and capsicum. You will observe what is stated on the label regarding it. The following formula will afford a good preparation:—

	Oz.
Gentian, sliced	1
Calamus „	1
Coriander, bruised	1

Infuse in half a pint of boiling water for two hours, then strain and dissolve 8 oz. of sugar in the infusion, add 3 drachms of tincture of capsicum and sufficient burnt sugar to colour.

149/41. *F. A. G.*—You will find a formula for the **Butter-colouring** in last volume, page 248. It may also be made by digesting 3 oz. of bruised annatto seeds in a pint of warm cotton-seed oil for two days and filtering. This is the easiest method.

149/42. *Uno.*—If you dilute port wine with water it is bound to ferment, seeing that you reduce the percentage of alcohol. You might add some rectified spirit or a little salicylic acid. The latter is much used for preserving cheap wines.

150/42. *Syrupus.*—**Himrod's Asthma Cure.**—We gave a formula in our volume for 1883. It is equal parts of stramonium, lobelia inflata, black tea, and nitre. Dr. Morell Mackenzie suggests the addition of a little powdered anise. All the ingredients should be in powder. Dr. Wm. Woodward (Worcester) states, in the *British Medical Journal*, that the formulæ generally given for a substitute for Himrod's powder form but a very poor imitation of it, containing no Indian hemp or eucalyptus oil, principal ingredients in Mr. Beverley's, for which the following is the form:—Take of daturæ tatulæ, stramonii, cannabis indicæ, lobeliæ inflatæ, of each ʒij.; mix with potassii nit. pulv., ℥ij., and ol. eucalypti, ʒss.; burn a teaspoonful in bedroom, and repeat if necessary. (Put on white paper in a saucer it burns well.) Another correspondent strongly recommends the following preparation:—Foliæ stramonii, ℥iv.; foliæ lobeliæ and foliæ belladonnæ, of each ℥j., to be thoroughly ground in a mill; potassii nitratis, ℥ij.; tinct. opii, ℥ij. Dissolve the saltpetre in the smallest possible quantity of hot water and add the tincture of opium. Thoroughly saturate the mixed and ground leaves with this solution, and dry at a gentle heat. When dry mix well with thoroughly pulverised camphor, and preserve in a stoppered bottle.

150/36. *Der.*—There is no vegetable colour which will stand exposure to light, especially in presence of such a changeable substance as turpentine.